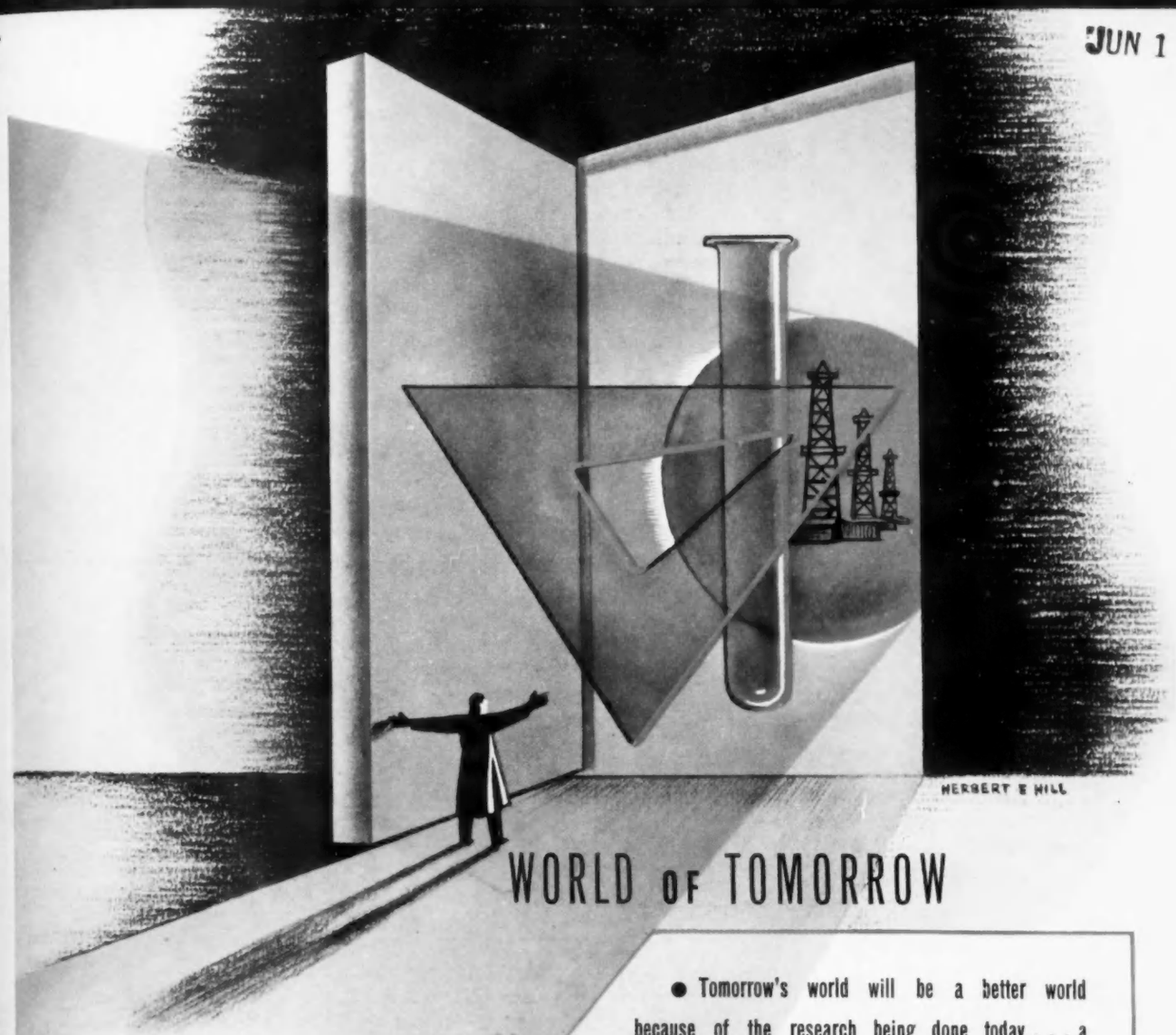
The OIL WEEKLY

OIL and GAS ENGINEERING

INTERNATIONAL AUTHORITY FOR THE PRODUCING AND PIPE LINE INDUSTRY

THE WEEK'S NEWS INTERPRETED

JUN 1 1 1943



WORLD OF TOMORROW

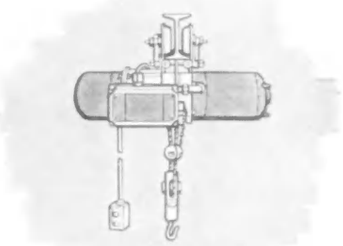
● Tomorrow's world will be a better world because of the research being done today . . . a world which will include new factors of speed, safety and certainty in drilling and production . . . And since history has a habit of repeating itself, you may depend upon Howco to play an important part in their creation and development.

Halliburton

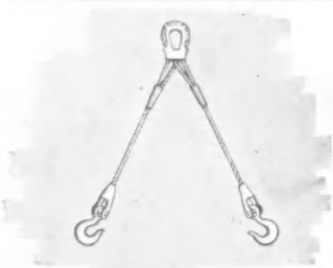
OIL WELL CEMENTING CO. DUNCAN, OKLAHOMA

Salient POINTS IN CMP Re: *Buying Wire Rope*

WHEN BUYING WIRE ROPE FOR INCLUSION IN A PRODUCT YOU ARE MAKING,



REMEMBER: Wire rope is a Controlled Material • Your orders should bear the abbreviated allotment numbers—such as: W-8-20 • Preference ratings on orders bearing allotment numbers are valueless. Wire rope producers are required to fill authorized controlled materials orders without regard to preference ratings • The allotment number on a wire rope order must show the actual month of delivery and *not* the quarter in which delivery is required.

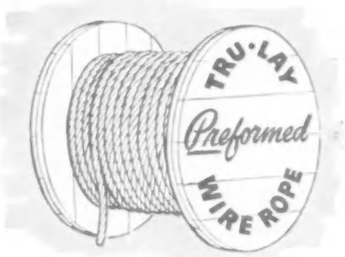


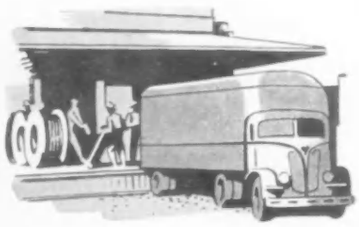
WHEN BUYING WIRE ROPE ASSEMBLIES,

REMEMBER: Assemblies consisting of wire rope and fittings are Class B if they are air-borne, but Class A if they are not. If Class A, you must furnish us with an allotment of the steel required for the wire rope, and for the fittings if they also are Class A. If Class B, you must not furnish an allotment of steel for either the fittings or the rope. In either case, your orders must bear allotment numbers or they cannot be considered *delivery orders* for products containing controlled material.

WHEN BUYING WIRE ROPE FOR MAINTENANCE, REPAIRS, OR OPERATING SUPPLIES,

REMEMBER: Subject to the limitations imposed upon you by any "P" order under which you may be required to operate, and provided you produce a product or are engaged in any business in Schedules I or II of CMP Reg. 5, the symbol MRO on a wire rope order, followed by any appropriate certification, makes your order an authorized controlled material order, and • A preference rating is not required, because wire rope is a controlled material • Just be sure to observe the quantity restrictions stated in Par. (f), CMP Reg. 5.





WHEN BUYING WIRE ROPE IN SMALL QUANTITIES FROM WAREHOUSES,

REMEMBER: You don't need an allotment number or a preference rating for wire rope if • **1**—You order in amounts of $10 or less, • or **2**—If you don't buy more than 4,000 pounds per calendar quarter, or • **3**—If you are authorized to buy it under Food Production Order 3 • Just be certain that you don't exceed the inventory limitations stated in CMP Reg. 2 • Certify your orders as stated in CMP Reg. 4.

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AMERICAN CHAIN & CABLE COMPANY, INC.

BRIDGEPORT, CONNECTICUT

(May 20, 1943)

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Contents • June 7, 1943

Volume 110, No. 1

The Changing Panorama.....9

Technical and Feature Articles:

Industry Is Meeting Heavy Wartime Oil Needs.....11
By L. J. LOGAN

How to Inspect Wire Rope.....16
By A. J. MORGAN

Wasson Operators Propose New Production Schedule.....22

Procedure for Reclaiming Worn Slush Pump Rods by Metallizing.24
By EARL J. CALK

Industry to Fight for Higher Crude Oil Prices.....26
By A. R. MCTEE

Practical Operating Hints for the Drilling Rig.....34

News and Departments:

Looking Ahead with the Editor.....7
Washington Roundup.....37
Markets, Statistics and Prices.....43
U. S. Field Operations.....51
United States Well Completions.....57
United States Wildcat Starts.....60
Squeaks from the Bullwheel.....62
Notes for the Equipment Buyer and User.....63
Men in the Industry's News.....64
Index to Advertisers.....64

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LOOKING AHEAD

. . . with the Editor

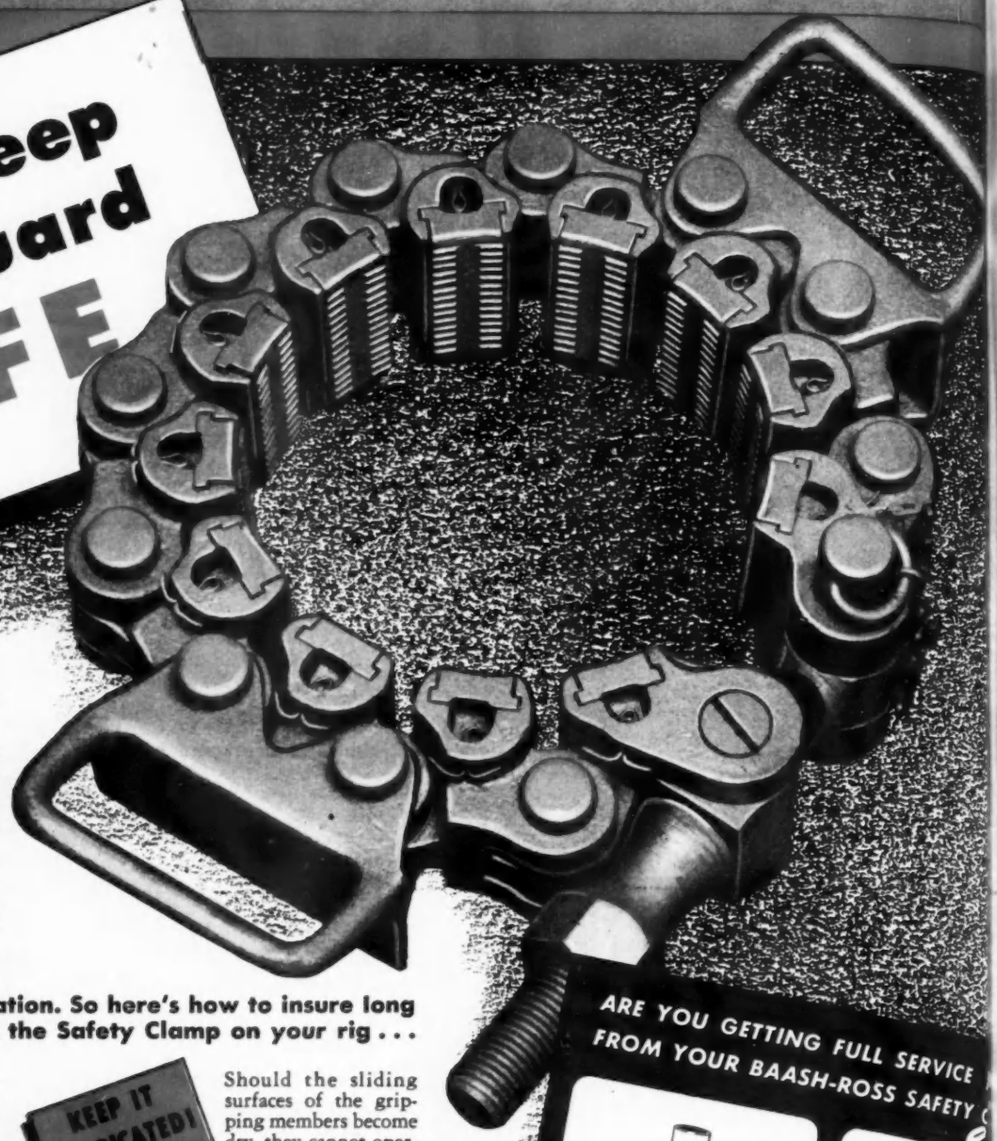
ALTHOUGH the United States is having difficulties in meeting demand for petroleum, its troubles so far have been small compared with those encountered in other countries. This will be clearly illustrated in an article to be published next week. Having little or no crude oil, other nations have resorted to substitute petroleum. Satisfactory liquid motor fuels are made from oil shale and coal, while others fall back on producer-gas installations that produce combustible gas in transit from coal, charcoal, wood or vegetable materials. These developments presage possibilities of important progress in non-petroleum fuels.

Baash-Ross News

BAASH-ROSS TOOL COMPANY • LOS ANGELES • HOUSTON • NEW YORK

OIL WEEKLY EDITION

How to keep a safeguard SAFE



MANY OPERATORS tell us that one of the best all-around investments they ever made in rig equipment is the Baash-Ross Safety Clamp. Not only is it an ideal safeguard against dropping drill collars and other flush joint equipment down the hole, but it also is proving a valuable aid to production work and it simplifies many fishing operations. Baash-Ross Safety Clamps will be difficult to obtain for the duration. So here's how to insure long life and topmost efficiency from the Safety Clamp on your rig . . .

KEEP IT CLEAN!

The important feature that enables the Safety Clamp to take a bull dog grip on even the smoothest case-hardened surface is the unique "sliding slip" built into each individual link. When the clamp is first tightened around the pipe these slips take a firm initial hold. Then any increase in the load causes the slips to slide up on their tapered seats and wedge tighter against the pipe, rigidly locking the clamp against movement. Because these slips must be free to slide *the instant* increased pressure is applied, the sliding surfaces must be kept clean and friction-free at all times. So don't allow rotary mud to cake on the clamp . . . nor heavy greases or dirt to collect!

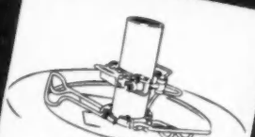
KEEP IT LUBRICATED!

Should the sliding surfaces of the gripping members become dry, they cannot operate efficiently. . . More important—dry surfaces are apt to gall under sudden impact loads, damaging the Clamp so that repairs or replacements might be necessary. Therefore, keep the clamp well lubricated with a very light penetrating oil that won't gum or thicken!

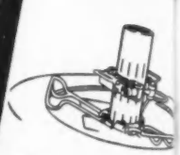
AN EASY WAY to keep your Safety Clamp BOTH clean and properly lubricated is to fill the metal case in which you store the Clamp with a good grade of kerosene or cleaning oil. The case has been particularly designed with welded corners and a solid bottom that will not leak. Keep the Clamp immersed in the fluid when it is not in use . . . and after use be sure to flush all mud and dirt off the Clamp before returning it to the case. This will keep the fluid clean and free of grit.

That's about all the maintenance your Safety Clamp requires . . . but it is vitally important maintenance! Just be sure you fill the case with fluid that is light enough to have a cleaning action—yet has sufficient lubricating value to keep the surfaces oiled. Either kerosene or light flushing oil will prove satisfactory!

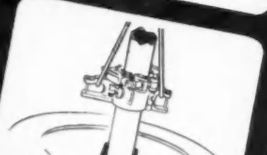
ARE YOU GETTING FULL SERVICE FROM YOUR BAASH-ROSS SAFETY C



YOU probably are already using your Safety Clamp to safeguard against dropping drill collars in the hole while making them up or breaking them out of the string . . .



BUT have you tried us it to safeguard agai dropping other types flush surfaced equipme such as flush joint dri strings, liners and screens



OR as an emergency elevator shoulder when recovering twist-offs and similar fish? One operator safely supported a 4000' drill string this way while lifting it far enough to get a collar in the clear!

OR for holding gravel-packed liners in the table while making them up? These liners usually have insufficient room between collar and pack for elevators. So put the Clamp in this space and support the liner through a "U" plate on the table. Gives ample room for tongs!

The Changing Panorama

PAW Shifts Toward Decentralization

THAT there is a perceptible shift toward decentralization of the Petroleum Administration for War is apparent to those who study the situation. Starting in California, and followed later in the East, there seems to be a noticeable trend toward placing authority over actual operation of the industry, in PAW district offices, with Washington remaining the policy-making point.

Such a policy has much to commend it. The job can be done with greater dispatch than has hitherto been the case, although PAW has functioned more smoothly than any Washington bureau.

Each of the districts into which PAW has divided the country has problems peculiarly its own. For instance, Californians will tell you that if California is to do what is expected of her, Californians, well acquainted with local problems, as well as national needs, can do that job if not hampered with a lot of red tape. Of course there will be red tape in any governmental bureau's operations, but in California they appear to think that there will be less under the new plan. We think that the Californians are right. Ickes seems to think so, too, although he has not commented on it.

It is not contemplated, insofar as can now be learned, to allow the different districts to be policy makers. Washington will retain that job, and each district will work to do its share in carrying out the plans made in Washington.

This change, which after all is not so revolutionary insofar as PAW is concerned, will be to the good.

Coal Mine Strike Important to Oil

ALTHOUGH higher coal wages are seen as opening the door for similar demands from other labor groups and as being the forerunner of widespread inflated retail price ceilings, opinion seems to be crystallizing into the belief that the government probably will settle the dispute almost at the terms Lewis demands.

This is a matter of importance to everyone, but perhaps especially to the oil industry. If other businesses are permitted higher prices, certainly producers of crude oil and even refiners and retailers should be among the foremost eligible groups, despite OPA's recent refusal of higher crude price ceilings.

Undoubtedly, troubles with the coal miners had much to do with OPA's recent unfavorable stand on oil prices. How could it have permitted higher prices in an industry generally looked upon as being "nigger" rich, when WLB was turning down better wages for the "poor" coal miner? But, if the miners win and operators demand compensation equalization, OPA would not be in such good position to refuse coal's chief competitor higher prices also.

Price Issue Not A Closed Matter

ALTHOUGH temporarily stunned by the unfavorable and unpractical stand taken by OPA, now is no time for the oil industry to ease up in its efforts to obtain higher prices. In fact, as indicated in the preceding item, now may be an opportune time. Should John L. Lewis win the coal dispute, oil must be prepared to renew its plea immediately, before too many other industries attempt to get in the OPA door.

Fortunate and encouraging is the stand taken by PAW, which does not consider the price issue closed. Ralph K. Davies, deputy petroleum administrator, speaking in Houston last week, declared that PAW had no intention of letting the matter stand. "We believe so firmly that higher prices are essential, that I have hopes," he said, "that we will be able to convince OPA of their necessity."

And fortunately, PIWC is not taking the matter lying down. It is preparing a full-fledged rebuttal to OPA's attitude and subsidy proposal (see page 26), and is far enough along to present sound arguments quickly if it appears opportune.

Oil Is Ammunition

General Jimmy Doolittle's "gang" of aviators in 15 days of flying in Tunisia burned up 16,500,000 gallons of aviation gasoline. This more than equals the weekly consumption of the United States' 27 million passenger cars and 5 million trucks and busses in unrationed pre-war days.—*Office of War Information.*

Army Should Release Oil Geophysicists

THE search for new oil fields is not progressing as successfully as the government, and for that matter the industry, would like to see. This country may come up against a sad lack of oil if the war drags out. Lack of prospects is generally considered the foremost problem, but it is but one factor. Another serious influence is the shortage of adequate trained personnel.

Hundreds of the best geophysical men in the United States are now with the armed services. Many of these were top-ranking men in their profession. Consequently, geophysical operations are suffering from a lack of personnel and a lack of experienced technicians, and thus the industry is not getting as much geophysical data or as good geophysical data as might normally be expected. This is said without disparaging in any manner the ability of the men still searching for prospective fields, but the experienced men are simply seriously over-worked.

One hundred to one hundred and fifty additional crews, manned by competent geophysicists could, and likely would, mean a great deal to the search for oil.

It has been calculated that 900 men with geophysical training, 150 of whom would be crew chiefs, might turn the tide. When this number is figured against the millions of men in the armed services, and the vital need for geophysical work, it appears that the armed services might loan these men to the oil search. The entire country, including the armed services, would be well served by such action. We have discussed this suggestion with several authorities, and there seems to be a practical approach.

Most of the geophysical men in the armed service were either called as reserve officers, or they volunteered. Such spirit on their part is most commendable, and it is not likely they would voluntarily ask for transfer back to civilian life, even if it be to carry on such an important effort as that involved in helping to increase the nation's oil supply. Therefore, it probably would be necessary to work out a plan whereby they would be kept in uniform, and be officially assigned to special service by the armed services. Such a plan could be worked out, and something should be done about it.

East Faces Critical Shortage of Fuel

NORTHEASTERN United States faces the most critical fuel-supply situation in its history, one that promises to exceed the seriousness of the past winter. Billions of dollars in war materials, the success of immediate military operations, and food, heat and other supplies for millions of people hangs in balance.

So serious is the outlook that PAW has under serious consideration the possibility of a 10-percent alcohol, 90-percent gasoline mixture as a motor fuel, and is studying the use of a colloidal heating fuel made of 40 percent pulverized bituminous coal and 60 percent No. 6 fuel oil. Tests by the Bureau of Mines showed that many industrial boiler plants designed to burn fuel oil could use this mixture, perhaps saving 15 to 30 million barrels of residual fuel oil annually in the East and Middle West.

Meanwhile, OPA placed a ban on all non-essential driving in the East, but filling stations continued to display "no gas" signs, and cut B and C coupon values to 2½ gallons. ODT has ordered a 40-percent reduction in gasoline consumption by all carriers, but busses ran out of gasoline on city streets in many instances.

And now prospects are further clouded by the possibilities of a coal shortage outweighing those of an oil scarcity, as miners go on strike. The outlook for coal, consumption of which has been pushed to all-time peaks by industrial activity and conversion from petroleum, is so poor that OPA released consumers in 13 states from its conversion program. Plans for use of colloidal coal and oil mixtures may have to be discarded despite any urgency that may arise.

Trying and critical times are ahead. The fuel question may become the greatest non-shooting battle of the war. Large quantities of both oil and coal are necessary every day of the year.

No Mathematics Are Needed

IT DOES not take a mathematician to figure out the cause of the tightened shortage of petroleum products for civilians in the East. It is not the result of floods, which broke the Big-Inch pipe line and caused a general slackening in rail deliveries, although these did not help, and prevented the delivery of several hundred thousand barrels of needed petroleum.

Our oversea armed services are requiring oil in increased quantities, and their needs must take precedence over civilians needs. In the Atlantic theater, ocean shipping distances demand that the military be supplied out of what is moved to the East. The dividend on this may come at any time.

PAW Unique Among Government Bureaus

JUST a week ago PAW became two years old. Its predecessor, OPC, having been created on May 28, 1941. The occasion passed without comment, but it actually was one of considerable significance.

Two years is not a ripe age for either organizations or individuals, but it is a rather old age for governmental agencies. Very few of the countless government bureaus are two years old, and none of the other emergency war agencies have existed for so long.

More unusual and of greater importance, is that PAW today is under the same management it started with.

PAW's age has given it experience that is of much value, while having the same management has given it a continuity of policy which is of equal value. PAW is on the same track now as it was in the beginning. This is of great advantage to everyone—the industry, the government, the people, and the military.

Does Another Agency Mean Streamlining?

WE MUST "streamline our activities, avoid duplication and overlapping, eliminate interdepartmental friction, make decisions with dispatch and keep both our military machine and our essential economy running in team and at high speed," President Roosevelt declared in announcing the creation of a new top agency, the Office of War Mobilization, on May 28. Certainly the most important step this country could take would be the achievement of the purposes outlined by the President, but there is much doubt that the establishment of still another agency is the way to streamline activities and avoid duplication, although OWM is given the responsibility of unifying programs and activities, and of settling disputes between agencies.

Undoubtedly Eric A. Johnston, president of the Chamber of Commerce of the United States, voiced the feelings of many people, when in opposing the Kilgore Bill that would have established a set-up almost identical with President Roosevelt's OWM, he said: "We should attempt to coordinate and improve the operation of the agencies we have rather than to engage in creation of more agencies."

The most widespread concern about changes now taking place in our form of government centers around the countless bureaus and agencies the President is creating. Whether the manpower and material resources of the country be sufficiently coordinated in an efficient enough manner to win the war through such a maze of red tape, with responsibilities outlined in such broad general terms as to mean almost nothing and which lead to duplication and friction is a question of much importance. Just how easy it will be to get rid of these bureaus when the war is won also is a question of prominence.

"Basically," observes Johnston, "what is needed is a better understanding and a more cooperative spirit between the various agencies already in existence. Hastily conceived, conflicting and multitudinous directives and amendments must be eliminated. More effective consultation with representatives of those who are affected by new regulations, is mandatory. In general, a greater reliance might well be placed upon the patriotic willingness and capacity of the people to serve their country and a little less emphasis given to official regulation and mobilization."

This is certainly sound advice for everybody in this country to heed, lest when the war is won we have on our hands a colossus of government, so hydra-headed that it can never be reduced to the fundamentals emphasized in our constitution and required by democracy.

If a business concern wanted to streamline its activities and avoid duplication and controversies, would it leave all existing departments intact and create another new department?

If the persons who borrowed 12 new ash trays from the PIWC conference room in Washington during the last meeting will kindly return them at the next meeting, no questions will be asked.

Industry Is Meeting Heavy Wartime Oil Needs

More crude produced and refined first five months of 1943 than in corresponding months of any other year, as wells and plants step up output to compensate for reduction of imports and inability to draw further on seriously depleted stocks

By L. J. LOGAN, Associate Editor

THE first five months of 1943 have elapsed, and even within that period, and with prospective sizeable additional increases in petroleum consumption still ahead, the oil industry of the United States has established several new all-time records. Thus the solutions and recovery from the problems and reverses that existed in 1942, promise that 1943 will be a year in which the industry again will set new records, including a new high rate of producing crude oil.

From January through May, 1943, the industry not only produced but also processed in refineries more crude oil than it ever did in the corresponding months of any other year. Even the records for the first five months of 1941, the last year prior to the nation's entry into the war, and the year in which all-time records were attained, were exceeded in both production and refining of crude oil. Figures on these two important barometers of the industry's operations are herewith given:

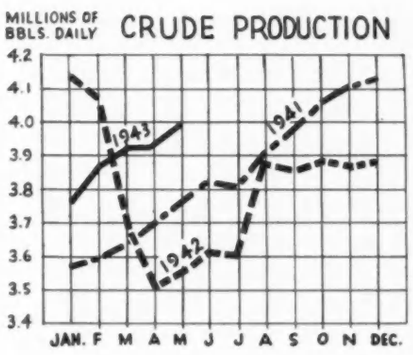
	First 5 Months (Thousands of Barrels)		
	1941	1942	1943
Crude oil production	552,311	571,940	588,573
Crude runs to stills	552,728	547,138	553,268

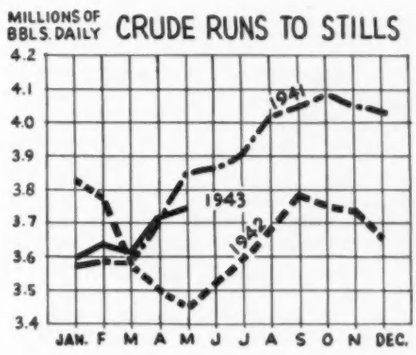
The high rates of production and refinery runs this year have been necessary partly because of heavy demand for all petroleum, with decreases in consumption of gasoline and some minor products partially compensated by increases in demand for residual fuel oil, aviation gasoline, and various war-waging essentials. But large production and processing of crude have been necessary this year also because the domestic industry has been called upon to supply through its current operations substantial supplies to replace the supplies that came in 1941 and 1942 from foreign fields and refineries and from storage tanks.

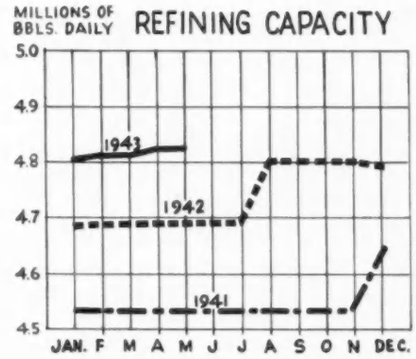
Although figures on imports are not available, it is evident that only relatively small quantities of any oils are being brought in this year, whereas

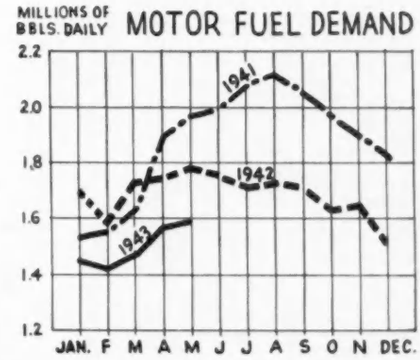
Trends of U. S. Crude Production, Refinery Runs, and Demand for Principal Products

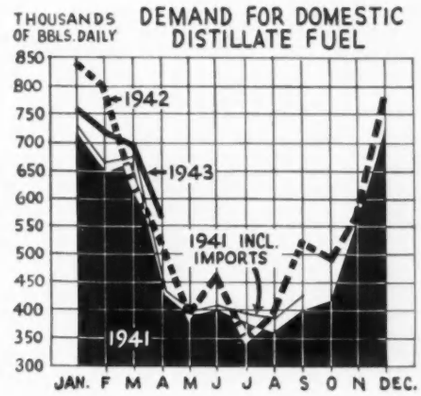
Curves more regular in 1943, as industry partially recovers from war time dislocations and adjusts operations to military and essential civilian requirements.

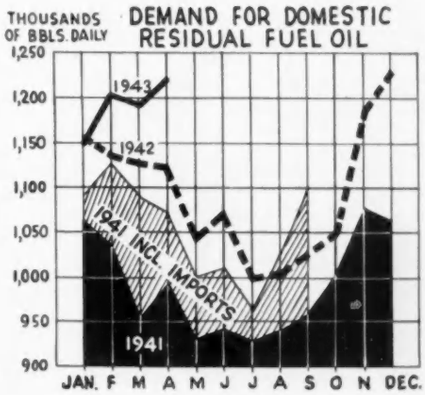












U. S. Crude Runs to Stills and Refining Capacity

(Thousands of Barrels)

STATE OR DISTRICT:	War Time Changes in U.S. Daily Average Refining Capacity: Available Dec., 1941	Available May, 1942	Available April, 1943	Percent Used Dec., 1941	Percent Used May, 1942	Percent Used April, 1943	War Time Fluctuations in Daily Average Refinery Runs of Crude: Peak Before U.S. Entry in War: Oct., 1941	Low After U.S. Entry in War: May, 1942	Current Data: April, 1943	Crude Runs in First 4 Months, 1942-1943: Total Amount 1942	Total Amount 1943	Daily Average 1942	Daily Average 1943	Percent Difference
East Coast, Texas Inland, Texas Gulf, La. Gulf, Ark. & La. Inland	2,313	2,383	2,444	85.7	63.7	72.1	2,127	1,498	1,693	220,709	197,899	1,839	1,649	—10.3
Appalachian	166	174	177	96.4	91.4	89.8	147	158	157	18,450	18,534	154	154	
Ind., Ill., Ky., etc	752	784	824	95.7	99.2	87.9	734	735	696	84,189	85,302	701	711	+ 1.4
Okla., Kansas, Mo	413	418	416	73.6	86.1	85.3	368	359	340	41,213	40,782	343	340	— 0.8
Rocky Mountain	136	138	147	54.4	65.2	63.9	94	91	95	11,068	11,010	92	92	
California	787	787	817	77.3	78.3	92.4	618	605	737	64,626	84,407	539	703	+30.4
Total United States	4,567	4,684	4,825	90.1	75.2	79.8	4,088	3,446	3,718	440,255	437,934	3,668	3,649	— 0.5

there were considerable imports in 1942, especially in the first few months of the year, while imports of 1941 consisted of around 50 million barrels of crude and 40 million barrels of refined products. Similarly, the industry is no longer able to provide any substantial supplies from storage, whereas it partially met requirements for its products in 1941 by taking 11 million barrels (all oils) from storage and in 1942 by drawing on the stocks of all oils to the extent of 58 million barrels. The industry now is on a hand-to-mouth basis because there are practically no surplus stocks. In fact, stocks are seriously deficient in several districts, and the total inventories of refined products are at a record low level for modern times at less than 240 million barrels, while crude stocks are not far above the minimum of the past two decades. In the first 5 months of 1943 the industry took about 15 million barrels of refined products from storage, while adding about 10 million barrels of crude, indicating a reduction of about 5 million barrels in the stocks of all oils. In the corresponding months of 1942 stocks of all oils were reduced 27,357,000 barrels, with refined-oil stocks lowered 38,332,000 barrels and crude stocks increased 7,693,000. In the January-May period of 1941, stocks of all oils were reduced 8,331,000 barrels, as refined-oil storage came down 5,850,000 barrels and crude stocks declined 1,968,000.

At the beginning of this year it was generally anticipated that 1943 would bring a new all-time record in the demand for all oils. Total demand of approximately 1,558,000,000 barrels in 1942 was 2 percent under the peak demand of 1,589,000,000 barrels in 1941. And it was conceded that demand would be materially lower in the first quarter of 1943 than in the like period of 1942, when requirements were tapering off from the unprecedented levels of late 1941. But it was pointed out that after the first quarter, data for 1943 would compare with periods in which the ill effects of war were felt, and for the year as a whole, an increase rather than a decrease in the total demand was foreseen. Most forecasters expected more than the 2 percent recovery necessary to establish a new record.

However, it subsequently has become increasingly doubtful if there will be much if any increase in total demand for all oils, over 1942.

War Time Changes in Refinery Yields of Major Products, by Districts

(Percent Yield from Barrel of Crude in February)

REFINING DISTRICT	March, 1941	March, 1942	March, 1943
Gasoline:			
East Coast, Texas, Louisiana, Arkansas	41.0	38.0	34.8
Appalachian	45.6	46.8	38.9
Indiana, Illinois, etc	50.7	50.8	41.0
Oklahoma, Kansas, Missouri	53.0	48.8	39.9
Rocky Mountain	52.8	47.3	42.6
California	34.7	36.0	29.2
Total United States	43.4	41.8	35.8
Kerosene:			
East Coast, Texas, Louisiana, Arkansas	6.4	6.2	7.0
Appalachian	6.6	6.9	7.7
Indiana, Illinois, etc	5.4	6.2	5.2
Oklahoma, Kansas, Missouri	6.8	7.6	7.4
Rocky Mountain	2.8	2.8	2.6
California	1.2	1.0	2.0
Total United States	5.4	5.5	5.6
Gas Oil and Distillate:			
East Coast, Texas, Louisiana, Arkansas	15.9	18.2	17.7
Appalachian	10.2	10.2	13.4
Indiana, Illinois, etc	10.4	11.2	14.0
Oklahoma, Kansas, Missouri	11.4	12.6	16.4
Rocky Mountain	8.0	8.0	10.6
California	14.0	11.4	12.0
Total United States	13.8	14.7	15.4
Residual Fuel Oil:			
East Coast, Texas, Louisiana, Arkansas	24.0	25.0	26.3
Appalachian	15.2	14.8	20.2
Indiana, Illinois, etc	19.5	19.9	23.0
Oklahoma, Kansas, Missouri	18.6	18.3	22.8
Rocky Mountain	25.2	25.0	28.2
California	41.7	40.7	47.7
Total United States	25.1	25.4	29.2
Lubricating Oil:			
East Coast, Texas, Louisiana, Arkansas	2.6	3.6	3.2
Appalachian	11.5	12.6	10.6
Indiana, Illinois, etc	1.5	1.8	1.9
Oklahoma, Kansas, Missouri	3.0	3.7	3.3
Rocky Mountain	0.4	0.8	0.5
California	0.9	1.2	1.2
Total United States	2.5	3.2	2.8

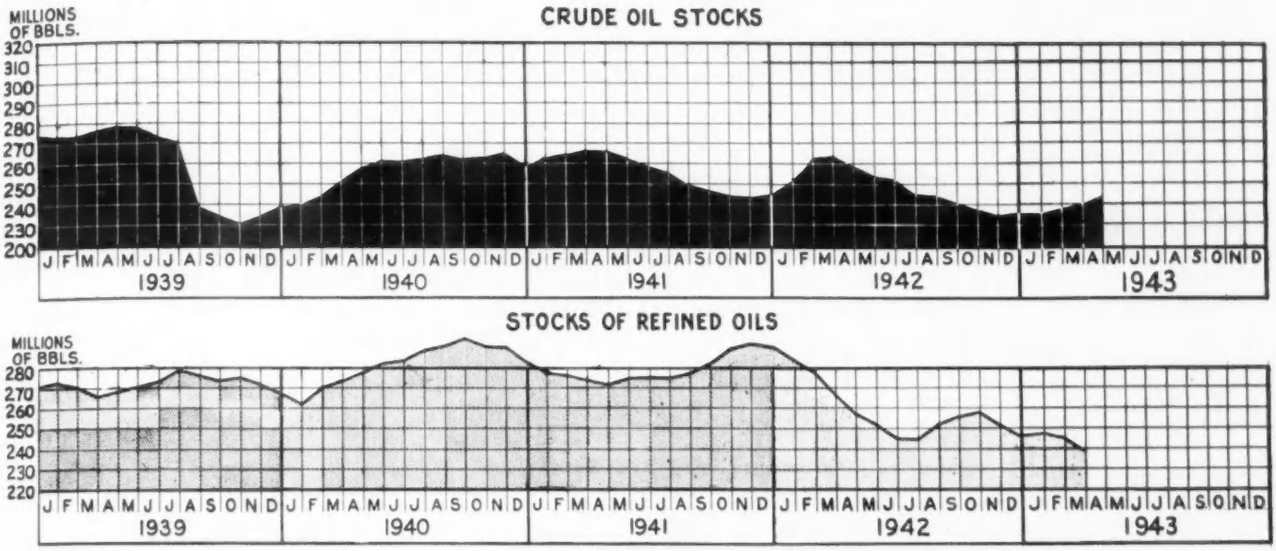
United States Crude Oil Production

(Thousands of Barrels)

STATE OR DISTRICT	War Time Fluctuations in Daily Average Production: Peak Before U. S. Entry in War: December, 1941	Low After U. S. Entry in War: April, 1942	Current Data: April, 1943	Production in First 4 Months, 1942-1943: Total Amount 1942	Total Amount 1943	Daily Average 1942	Daily Average 1943	Percent Difference
Arkansas	74.3	71.6	71.9	8,773	8,764	73.1	73.0	— 0.1
California	631.9	637.5	779.0	75,584	92,871	629.8	773.9	+22.8
Colorado	6.1	5.7	6.6	677	762	5.6	6.3	+12.5
Illinois	397.8	301.6	236.5	40,443	28,560	337.0	238.0	—29.3
Indiana	18.6	19.8	14.1	2,208	1,830	18.4	15.2	—17.3
Kansas	256.7	249.8	313.6	29,378	36,683	244.8	305.6	+24.8
Kentucky	12.7	11.9	21.2	1,411	2,226	11.7	18.5	+58.1
Louisiana	347.4	306.8	346.6	39,745	39,909	331.2	332.5	+ 0.3
North Louisiana	139.3	75.3	88.6	8,691	10,118	72.4	84.3	+16.4
South Louisiana	208.1	231.5	258.0	31,054	29,791	258.7	248.2	— 4.0
Michigan	56.8	62.5	58.9	6,403	6,957	53.3	57.9	+ 8.6
Mississippi	70.5	96.2	55.3	10,683	6,721	89.0	56.0	—37.0
Montana	22.0	22.0	20.2	2,627	2,301	21.8	19.1	—12.3
Nebraska	5.1	3.9	2.2	472	263	3.9	2.1	—43.5
New Mexico	112.2	67.3	97.2	11,250	11,578	93.7	96.4	+ 2.8
New York	15.1	15.3	14.2	1,770	1,679	14.7	13.9	— 5.4
Ohio	9.9	10.6	8.7	1,152	1,023	9.6	8.5	—11.4
Oklahoma	427.6	389.6	341.9	47,748	41,172	397.9	343.1	—13.7
Pennsylvania	49.3	52.7	45.9	5,933	5,378	49.4	44.8	— 9.3
Texas	1,532.3	1,081.0	1,389.0	162,906	163,861	1,357.5	1,365.5	+ 0.5
East Texas Field	386.2	225.4	319.8	38,483	38,930	320.6	324.4	+ 1.1
Rest of East Texas	86.1	78.7	99.7	10,324	12,048	86.0	100.4	+16.7
North Texas	137.1	130.5	134.9	17,246	16,314	143.7	135.9	— 5.4
West Texas	302.4	185.8	214.4	30,159	25,355	251.3	211.2	—15.9
Texas Panhandle	92.1	83.5	91.0	10,280	10,703	85.6	89.1	+ 4.0
Gulf Coast, Upper	303.2	227.5	340.7	32,844	39,809	273.7	331.7	+21.1
Gulf Coast, Lower	126.9	82.6	117.3	13,145	12,678	109.5	105.6	— 3.5
Southwest Texas	78.2	48.0	54.5	7,982	5,968	66.5	49.7	—25.2
South Central Texas	20.1	19.0	16.7	2,443	2,056	20.3	17.1	—15.7
West Virginia	9.8	10.4	9.3	1,184	1,113	9.8	9.2	— 6.1
Wyoming	82.2	85.4	91.8	10,092	10,512	84.1	87.6	+ 4.1
Others	.2	.2	.2	22	9	.2	.1	—50.0
Total United States	4,138.5	3,501.8	3,924.3	460,461	464,172	3,837.1	3,868.1	+ 0.8

Stocks of Crude and Refined Oils in United States at End of Month

Inventories of refined products currently are at lowest level for recent years, and crude stocks are not far above 20 year low reached in late 1939.



In its monthly petroleum forecast for May, the United States Bureau of Mines stated that the total demand for all oils apparently was about 9 percent lower in the first quarter of 1943 than in the initial quarter of 1942. Total demand for motor fuel of about 124 million barrels during the first three months of 1943 was 17 percent under that in the corresponding months of 1942, according to the bureau, and demand for distillate fuel oil was off 9 percent, while demand for residual fuel oil decreased 3 percent. Those three products represent about 80 percent of the estimated total demand for all oils. While total demand was substantially below last year, the demand for domestic crude petroleum showed a fractional gain, stocks of all oils remained at an almost stationary level compared with a decline of about 10 million barrels in the first quarter of 1942, crude runs to stills showed a decline of about 3 percent, and imports were relatively low. As transportation facilities improve, the bureau stated, the replenishment of stocks on the East Coast should require a further substantial increase in crude demand and runs to stills, to avoid excessive levels of operations later in the year. Total demand for motor fuel in May was estimated as 10 percent less than the actual demand in May, 1942.

The Bureau of Mines in its monthly petroleum forecast for April had attempted some estimates of demand for the remainder of 1943. Its estimate at that time for the second quarter of this year was a probable decline of about 4 percent in the total demand for all oils, compared with the same period of 1942. The progressive effect of restrictions on civilian consumption is being felt during the first half of 1943, the agency pointed out, and apparently will more than offset increasing war requirements. However, it added, a substantial relative increase in total demand for all oils seems probable in the latter part of 1943 compared with the corresponding period of 1942.

Nation-wide rationing of gasoline for the conservation of rubber apparently has reduced civilian demand more than expected, and during 1943, this reduction probably will more than offset the increase in military and export requirements, with a consequent further material decrease in total gasoline demand, following the 10-percent decline in 1942 from the peak of 1941—to 616 million barrels from 685 milllion.

The full effect of the progressive conversions to other fuels by industrial and power plants using residual fuel oils, particularly in District 1, will be felt in 1943, the bureau stated, and may largely offset the expected gains in railroad, shipping, and naval uses. The total demand of about 427 million barrels for residual fuel oil in 1942 was 5 percent above the 407 million barrels required in 1941.

On the other hand, a further moderate increase in total demand for distillate fuel oils is anticipated by the Bureau of Mines for 1943. About 70 percent of the domestic demand for distillate fuel oils is for heating purposes, and although rationing substa..tially reduced unit consumption, there was a material gain in total demand during the last quarter of 1942 compared with

Fluctuations in Crude Stocks, by Grade or Origin, Since Pearl Harbor

(Thousands of Barrels)

GRADE OR ORIGN	Outbreak of War for U.S. Dec. 13, 1941	High for 1942–1943 (Mar. 28, 1942)	Low for 1942–1943 (Dec. 12, 1942)	Latest Data (May 15, 1943)	Change from Mar. 28, 1942	Change from Dec. 12, 1942
Pennsylvania Grade	3,633	3,431	3,054	2,693	— 738	— 361
Other Appalachian	1,529	1,522	1,356	1,419	— 103	+ 63
Lima-Michigan	1,233	1,549	1,208	1,011	— 538	— 197
Illinois-Indiana	18,243	19,337	9,494	11,098	—8,239	+1,604
Arkansas	2,591	2,977	2,068	2,257	— 720	+ 189
Kansas	7,400	7,696	6,898	8,362	+ 666	+1,464
Louisiana	12,348	13,669	12,732	15,044	+1,375	+2,312
Northern	3,849	4,223	4,745	4,917	+ 694	+ 172
Gulf Coast	8,499	9,446	7,987	10,127	+ 681	+2,140
Mississippi	2,202	2,445	1,174	1,283	—1,162	+ 109
New Mexico	6,781	7,510	5,622	7,042	— 468	+1,420
Oklahoma	51,562	50,513	40,111	37,731	—12,782	—2,380
Texas	81,676	96,123	102,130	105,607	+9,484	+3,477
East Texas	20,549	23,677	24,468	23,142	— 535	—1,326
West Texas	18,070	23,961	24,252	25,184	+1,223	+ 932
Gulf Texas	23,935	25,889	28,388	29,393	+3,504	+1,005
Other Texas	19,122	22,596	25,022	27,888	+5,292	+2,866
Panhandle	.....	.....	4,670	5,587	.....	+ 917
North	.....	.....	7,491	7,701	.....	+ 210
South	.....	.....	4,879	5,082	.....	+ 203
Other	.....	.....	7,982	9,518	.....	+1,536
Rocky Mountain	16,267	16,628	13,934	13,816	—2,812	— 118
California	34,574	38,454	31,965	33,999	—4,455	+2,034
Foreign	2,644	1,354	150	95	—1,259	— 55
Total Gasoline-bearing in U.S.	242,683	263,208	231,896	241,457	—21,751	+9,561
Heavy in California	10,128	11,336	10,607	10,261	—1,075	— 346

Production and Indicated Demand for Domestic Supplies of Major Petroleum Products in First 4 Months of 1942 and 1943

(Jan. 3-May 2, 1942, and Jan. 2-May 1, 1943—Thousands of Barrels. Figures based on American Petroleum Institute weekly reports)

ITEM	Gasoline			Gas Oil and Distillate Fuel			Residual Fuel Oil		
	1942	1943	Percent Change	1942	1943	Percent Change	1942	1943	Percent Change
Production:									
Total	202,196⧗	177,082⧗	—12.4	61,657	67,149	+ 8.9	113,294	129,762	+14.5
Daily Average	1,699⧗	1,488⧗	—12.4	518	564	+ 8.8	952	1,090	+14.5
Change in stocks	+8,699*j*	+6,484*j*	—25.4†	—21,243	—13,122	—38.2‡	—15,531	—5,890	—62.0‡
Demand:									
Indicated Demand for Domestic Supplies Total	193,497	170,598	—11.8	*82,900	*80,271	—3.1	*128,825	*135,652	+5.7
Indicated Demand for Domestic Supplies, Daily Average	1,626	1,433	—11.8	*696	*674	—3.1	*1,082	*1,140	+5.3

* Exclusive of supplies made available by transferring from crude. † Decrease in accumulation for 4 months' period. ‡ Decrease in withdrawal for 4 months' period. ⧗ Includes natural gasoline blended at refineries. *j* Finished gasoline only.

Indicated Demand for Petroleum and Products (Not Considering Imports in 1942 and 1943)

Based on data from Bureau of Mines (thousands of barrels)

ITEM	MARCH				FIRST 3 MONTHS			
	1941	1942	1943	Percent Change 1942-1943	1941	1942	1943	Percent Change 1942-1943
All Oils								
Production:								
Crude	112,817	114,473	121,560	+ 6.1	324,255	356,696	347,186	— 2.6
Natural Gasoline	4,916	7,220	7,557	+ 4.6	14,365	21,873	21,757	— 0.5
Benzol	317	†	†	.....	910	†	†	.....
Total Production	118,050	121,693	129,117	+ 6.1	339,530	378,569	368,943	— 2.5
Imports	9,303	.....	.....	.....	22,904	.....	.....	.....
Change in Stocks	—476	—9,874	+235	.....	—4,907	—9,702	+415	.....
Demand	127,829	*131,567	*128,882	— 2.0	367,341	*388,271	*368,528	— 5.0
Crude Oil								
Production	112,817	114,473	121,560	+ 6.1	324,255	356,696	347,186	— 2.6
Imports	3,821	.....	.....	.....	9,985	.....	.....	.....
Change in Stocks	+1,948	+988	+5,106	.....	+2,301	+14,948	+7,827	.....
Demand	114,690	113,485	116,454	+ 2.6	331,939	341,748	339,359	— 0.6
Motor Fuel								
Production	53,409	52,902	46,653	—11.8	154,325	164,549	137,169	—16.6
Imports	281	.....	.....	.....	733	.....	.....	.....
Change in Stocks	+3,040	—591	+1,676	.....	+13,401	+14,116	+14,135	.....
Demand	50,650	*53,493	*44,977	—15.9	141,657	*150,433	*123,034	—18.2
Kerosene								
Production	6,033	6,035	6,326	+ 4.8	18,582	18,802	17,780	— 5.4
Imports	.....	.....	.....	.....	.....	.....	.....	.....
Change in Stocks	—910	—1,424	—1,074	.....	—2,788	—1,699	—5,196	.....
Demand	6,943	*7,459	*7,400	— 0.7	21,370	*20,501	*22,976	+12.0
Distillate Fuel Oil								
Production	15,326	16,214	17,288	+ 6.6	47,076	48,310	50,834	+ 5.2
Transfers from Crude	226	187	229	+22.4	630	592	666	+12.5
Imports	372	.....	.....	.....	1,257	.....	.....	.....
Change in Stocks	—4,585	—3,506	—4,163	.....	—13,135	—19,721	—13,805	.....
Demand	20,909	*19,907	*21,680	+ 8.9	62,098	*68,623	*65,305	— 4.8
Residual Fuel Oil								
Production	27,858	28,095	32,700	+16.3	81,795	84,754	96,043	+13.1
Transfers from Crude	660	1,613	1,914	+18.6	2,291	4,753	5,672	+19.3
Imports	4,263	.....	.....	.....	9,682	.....	.....	.....
Change in Stocks	—1,268	—5,288	—2,377	.....	—7,670	—13,097	—4,503	.....
Demand	34,049	*34,996	*36,991	+ 5.7	101,438	*102,604	*106,218	+ 3.5
Lubricating Oil								
Production	2,813	3,533	3,184	— 9.8	8,278	10,204	8,899	—12.7
Change in Stocks	—153	+41	—82	.....	—130	+343	+265	.....
Demand	2,966	3,492	3,266	— 6.4	8,408	9,861	8,634	—12.4
Wax (Thousands of Pounds)								
Production	51,240	61,600	65,240	+ 5.9	135,240	169,680	177,520	+ 4.6
Imports	128	.....	.....	.....	2,746	.....	.....	.....
Change in Stocks	+2,737	—560	+1,960	.....	—3,385	+226	—1,960	.....
Demand	48,631	*62,160	*63,280	+ 1.8	141,371	*169,454	*179,480	+ 5.9
Coke (Short Tons)								
Production	125,000	108,400	98,000	— 9.5	353,400	369,400	304,400	—17.5
Change in Stocks	.....	—6,400	+17,800	.....	—112,000	+24,400	+60,400	.....
Demand	125,000	114,800	80,200	—30.1	465,400	345,000	244,000	—29.2
Asphalt (Short Tons)								
Production	373,300	428,200	483,100	+12.8	982,800	1,192,900	1,309,600	+ 9.7
Imports (Incl. Natural)	12,700	.....	.....	.....	22,800	.....	.....	.....
Change in Stocks	+71,000	—24,700	+119,000	.....	+217,000	+136,700	+260,700	.....
Demand	315,000	*452,900	*364,100	—19.6	788,600	*1,056,200	*1,048,900	— 0.6
Road Oil								
Production	198	475	83	—82.5	523	1,231	480	—61.0
Change in Stocks	+132	+56	—100	.....	+268	+172	+11	.....
Demand	66	419	183	—56.3	255	1,059	469	—55.7
Still Gas								
Production	23,754	22,389	24,253	+ 8.3	62,926	68,159	70,498	+ 3.4
Miscellaneous								
Production	368	667	738	+10.6	932	1,802	2,251	+24.9
Change in Stocks	+4	—23	—3	.....	+10	+142	+104	.....

* Indicated demand not considering imports. † Included with natural gasoline.

the like period of 1941, because of weather conditions, more installations, and the increase in other uses. A further increase in demand for distillate fuel oil in 1943 would represent a new all-time record. The peak demand of 214 million barrels in 1942 was 9 percent above the demand of 196 million barrels in 1941.

Also contributing toward maintenance or increase of total demand for all oils in 1943 will be a further sharp increase in domestic and export demand for aviation gasoline, following the large gain of 1942. One major company recently revealed that the volume of aviation gasoline that it sold in the first four months of 1943 was more than three times what it was in the same period of 1942.

Products used in the prosecution of the war are becoming larger proportions of the volumes of business for many companies. These products, assuming increased importance, include toluene for explosives, butadiene for rubber, special lubricants and greases, and many other special oils. In the aggregate they represent a substantial quantity of oil, and the demand for them is steadily increasing.

Withdrawals from storage of over 58 million barrels were required to meet the total demand in 1942, including 12 million barrels of crude and 46 million barrels of refined products. And if total demand and imports should remain the same and no further withdrawals from storage are made in 1943, the agency stated, then a substantial increase in new production would be required to replace the supply obtained from storage in 1942. This would require a production of about 3,950,000 barrels daily in 1943, a gain of 4 percent compared with 1942, and crude runs to stills of about 3,730,000 barrels daily. If demand should prove to be much larger than in 1942, or a material increase in stocks were considered necessary, production would have to be expanded, imports increased, or civilian consumption further curtailed.

While refinery runs have been retarded by curtailment of demand through transportation difficulties, there has been continued steady expansion of refining capacity in the United States, as facilities have been added for making aviation gasoline, toluol, butadiene, and so forth. As compared with an aggregate rated capacity for processing 4,567,000 barrels of crude oil daily immediately prior to the attack on Pearl Harbor, U. S. plants in May of 1942 had combined capacity for 4,684,000 barrels of crude daily and they now can handle 4,825,000 barrels per day, a new all time record volume. The present available capacity is being used to

the extent of about 80 percent, compared with 75 percent use of capacity in May last year and 90 percent in December, 1941. All refining districts have increased their capacity, and while the Eastern and Southwestern districts currently are using lower percentages of capacity than formerly, there is today increased use of capacity in the Middle West, upper Mid-Continent, Rocky Mountain, and West Coast districts.

For the first 4 months of 1943, crude run to stills in the United States totaled 437,934,000 barrels, or ½ of 1 percent less than the 440,255,000 barrels processed in corresponding months of 1942. Only very slight changes were shown by the Appalachian, Middle Western, upper Mid-Continent, and Rocky Mountain districts, but runs were off 10 percent in the East Coast and Southwestern districts combined, while they were up 30 percent in California, those two changes having approximately balanced each other.

Crude Oil Production

In the first 4 months of 1943, crude oil production increased steadily, in contrast with a sharply declining curve for the like months of 1942, with the result that output for the whole period was nearly the same for both years, having been 8/10 of 1 percent greater in 1943. Comparisons by districts showed increases for California, Kansas, and several other states, which were offset by decreases, mainly in Illinois, Mississippi, and Oklahoma.

California currently is producing around 780,000 barrels of crude daily (April data), compared with 632,000 per day in December, 1941, and Kansas is up to 314,000 against 257,000, while the Louisiana Gulf Coast has risen to 258,000 from 208,000 and the upper Gulf Coast of Texas to 341,000 from 303,000. Other states and districts producing more now than at the time of Pearl Harbor include Colorado, Kentucky, Michigan, and Wyoming. On the other hand, production has dropped sharply from Pearl Harbor levels for various states. Illinois averaged only 236,000 barrels daily in April, 1943, compared with 398,000 in December, 1941, Oklahoma 342,000 against 428,000, Mississippi 55,000 against 70,000, New Mexico 97,000 against 112,000, the East Texas field 320,000 against 386,000, West Texas 215,000 against 302,000, Southwest Texas (Laredo district) 55,000 against 78,000. Texas. With the further improvement of transportation and with the probable continued decline of producing ability of Illinois, Oklahoma, and Mississippi, there will be need for increased crude production in the districts of the Southwest that are capable of larger output, including particularly the upper and

[*Continued on page 32*]

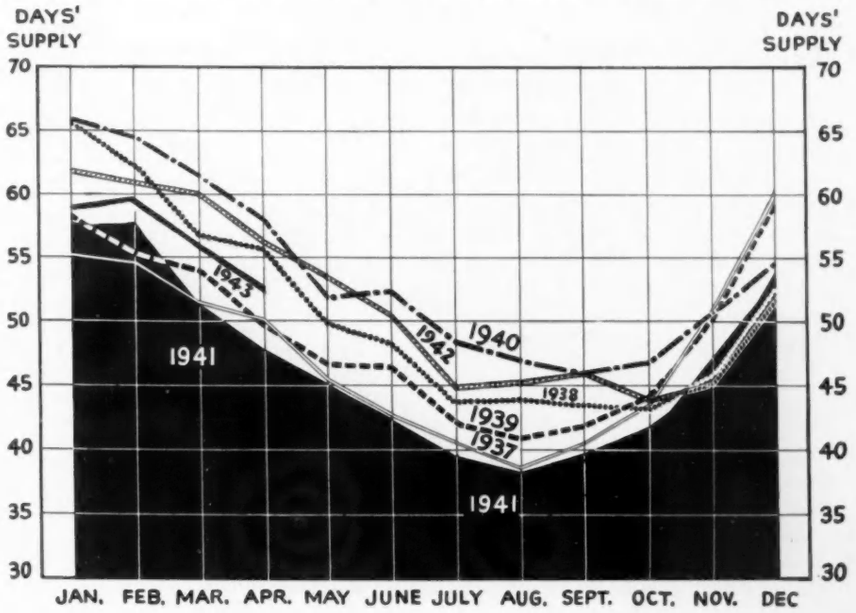
U. S. Stocks of Major Petroleum Products at End of April, by Districts

(Thousands of Barrels)

REFINING DISTRICT	April 30, 1941	April 30, 1942	April 30, 1943	Percent Change Since 2 Years Ago	Percent Change Since 1 Year Ago
Gasoline (Finished and Unfinished):					
East Coast, Texas, Louisiana and Arkansas	45,586	46,184	37,778	— 17.1	— 18.2
Appalachin	3,488	4,102	2,519	— 27.7	— 38.5
Indiana, Illinois, Kentucky, etc	19,368	21,588	19,432	+ 0.3	— 9.9
Oklahoma, Kansas, Missouri	8,555	9,926	6,816	— 20.3	— 31.3
Rocky Mountain	2,427	2,667	2,077	— 14.4	— 22.1
California	16,507	17,355	21,407	+ 29.6	+ 23.3
Total United States	95,931	101,822	90,029	— 6.1	— 11.5
Gas Oil and Distillate:					
East Coast, Texas, Louisiana and Arkansas	17,189	13,272	13,145	— 23.5	— 0.9
Appalachian	286	421	789	+175.8	+ 87.4
Indiana, Illinois, Kentucky, etc	2,531	2,337	3,747	+ 48.0	+ 60.3
Oklahoma, Kansas, Missouri	1,150	937	1,575	+ 36.9	+ 68.0
Rocky Mountain	315	281	328	+ 4.1	+ 16.7
California	10,322	11,544	11,207	+ 8.5	— 2.9
Total United States	31,793	28,792	30,791	— 3.1	+ 6.9
Residual Fuel Oil:					
East Coast, Texas, Louisiana and Arkansas	18,739	15,161	10,435	— 44.3	— 31.1
Appalachian	518	609	476	— 8.1	— 21.8
Indiana, Illinois, Kentucky, etc	3,068	3,240	2,856	— 6.9	— 11.8
Oklahoma, Kansas, Missouri	1,994	1,389	1,441	— 27.7	+ 3.7
Rocky Mountain	606	544	521	— 14.0	— 4.2
California	55,454	46,715	41,281	— 25.5	— 11.6
TotalUnited States	80,379	67,658	57,010	— 29.0	— 15.7

Days' Supply of Motor Fuel in Storage in United States at End of Month, on Basis of Demand in Succeeding Month

Stocks have been reduced in close conformity with war time curtailment of consumption, as refinery yields have been lowered, with result that inventories are running about normal in terms of days' supply on basis of prevailing demand. Feared surplus of gasoline therefore has not materialized.



Trends of Total Demand for Motor Fuel in First Five Months, 1941, 1942, 1943

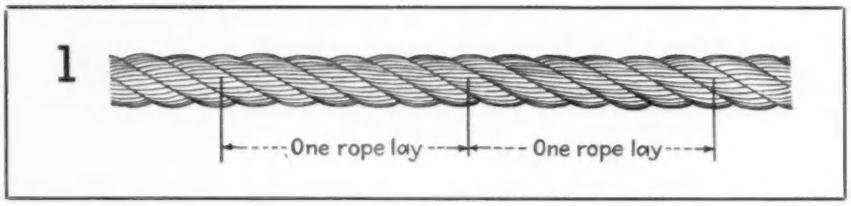
(Thousands of Barrels; Data from Bureau of Mines)

MONTH	1941 (Actual)	1942 (Actual)	1943 (Forecasts)	Percent Diff. '41-'43	Percent Diff. '42-'43
January	47,389	52,192	44,800	— 5.4	—14.1
February	43,254	44,593	39,700	— 8.2	—10.9
March	50,498	53,493	45,600	— 9.6	—14.7
April	56,682	52,162	47,100	—16.9	— 9.7
May	60,895	55,079	49,400	—18.8	—10.3
Total 5 Months	258,718	257,519	226,600	—12.4	—12.0
Daily Avge, May	1,964	1,777	1,593	—18.8	—10.3
Daily Avge 5 Months	1,713	1,705	1,501	—12.3	—11.9

U. S. Stocks of Motor Fuel at End of April in Recent Years

(Actual and in Terms of Days' Supply)

YEAR	Stocks, April 30, (Thousands of Bbls.)	Daily Average Demand in Succeeding Month (Thousands of Bbls.)	Days' Supply Represented by April 30, Stocks
1937	78,711	1,575	50.0
1938	88,863	1,597	55.6
1939	87,107	1,740	49.8
1940	102,727	1,772	58.0
1941	93,918	1,964	47.8
1942	100,215	1,777	56.3
1943	84,091	1,570	52.7



Distance required for a strand to make a full turn is called one rope lay.

How to Inspect Wire Rope

First of a series of articles on saving wire line

By A. J. MORGAN
Chief Engineer, Wire Rope and Strand Division,
John A. Roebling's Sons Company

METHODS of inspecting wire rope can be fairly well standardized, although inspection practices must necessarily vary to allow for the peculiarities of the individual installation. Evidences of deterioration in wire rope will, within fairly wide limits, be the same whether the rope is working on a draw-works hoist or a small electric hoist. Frequency of inspection, however, can vary from daily to yearly, depending on the installation.

What Inspection Will Show

Deterioration of wire rope will be evidenced by: (1) Broken wires; (2) worn wires; (3) pitted or corroded wires; (4) drastic reduction in rope diameter and excessive lengthening of lay; (5) marks of mechanical abuse, such as flattening and distortion.

To inspect wire rope properly is to discover its worst spot. Thus, an inspection must include the entire length of the rope. If the rope is covered throughout its length with a heavy lubricant on the outside which obscures a view of the broken wires and of the abrasion-worn surfaces of the wire, provision must be made for the inspection to ascertain where the wire breaks are occurring, and the degree of the abrasion abuse the rope has suffered. In the majority of instances, however, it will be possible to ascertain the section of rope showing the most deterioration simply by looking at it.

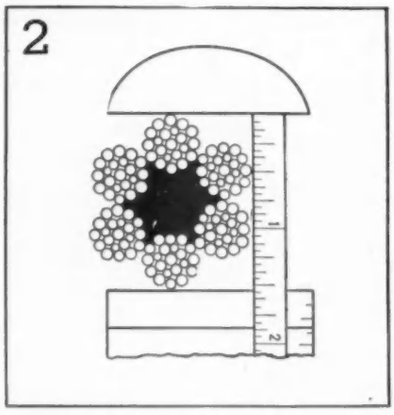
Inspection Should Include

1. A quick check of the number of broken wires by rope lays, so that the worst lay can be selected. *One rope lay is the distance in which one strand makes one complete revolution around the rope.*

The worst broken-up rope lay should be selected for accurate counting of broken wires, since that lay constitutes the weakest point in the rope.

Note whether the majority of these wire breaks is occurring in one or two strands, rather than being fairly evenly divided among all strands. If they are concentrated in one or two strands, the rope will be considerably weaker than if they are evenly distributed.

It should also be noted where the majority of wires are breaking in relation to their position on the strand; that is, whether they are crown breaks occurring on the top side of the strand, or whether they occur in the valleys between adjacent strands. If they are crown breaks, they propbably indicate normal deterioration; if valley breaks, there may be an abnormal condition.



This is the correct way to measure the diameter of a wire rope.

2. A check of the diameter of the rope, Figure 2, throughout its length should disclose any drastic reduction from the catalog diameter at any point. Such reduction will indicate that the hemp center has dried out and collapsed, the rope has been stretched unduly, or internal corrosion is present.

3. Inspect the degree of abrasion wear occurring on the wires. Either the length of wear should be discovered or an actual diameter check of the individual wires should be made. It is difficult to measure this wear accurately, especially in a rope built of small diameter wires; but some check must be made.

4. Note carefully, not only in the worst broken-up section of the rope, but, throughout its entire length, whether any signs of rust are appearing. Internal corrosion in a rope may be evidenced by a showing of rust in the valleys between the strands. Pitting also will usually be discovered more readily in the valleys. It is possible to have internal corrosion, however, with no external signs.

5. Note whether wire breaks and

sure is buildin' up fast"

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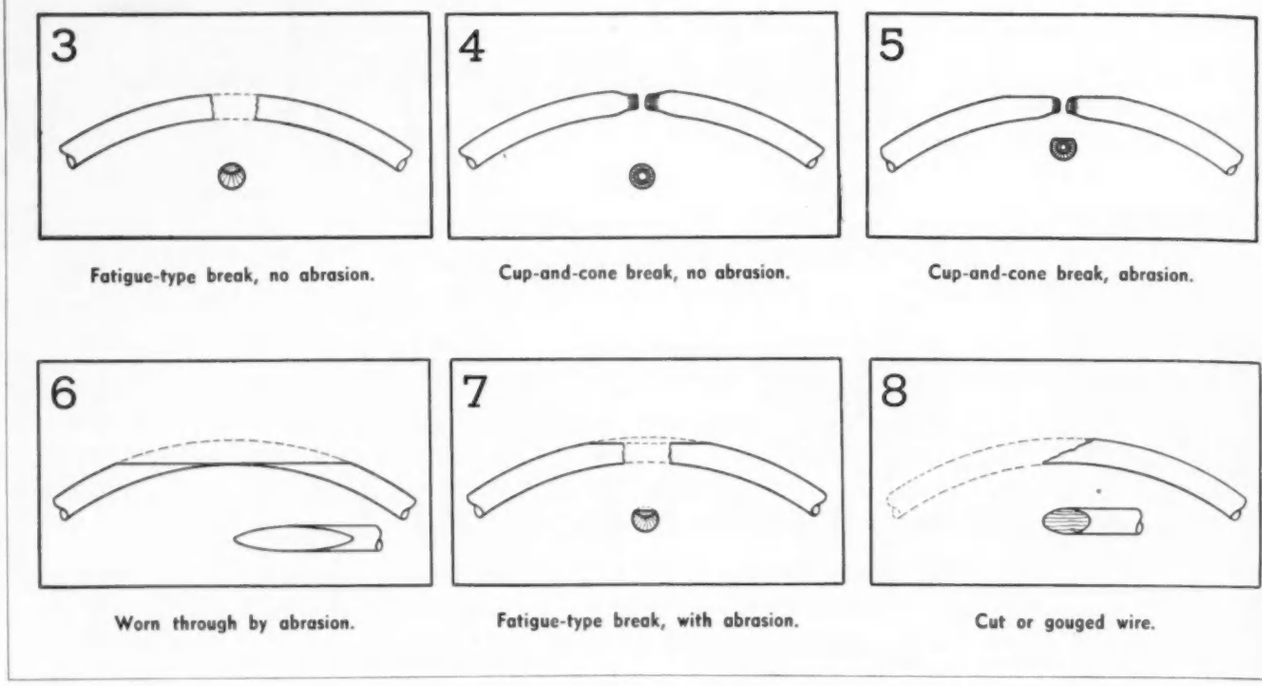

Typical Characteristics and Causes of Broken Wires in Wire Rope

Type of Break	*Characteristics*	*Cause*
FATIGUE	Wire break will be transverse; cross-sectional view of broken ends will show granular structure. (See Figures 3 and 7.)	Where fatigue breaks occur, rope has been bent around too small a radius too often, or it has been subjected to vibration or whipping Fatigue also often occurs after wire has been damaged by corrosion.
TENSION	Wire break will show one side of broken wire coned, the other cupped. (See Figures 4 and 5.) This type of break also can develop on wire showing abrasion.	Where tension breaks are found, rope has been subjected to too great a strain, either for its original strength or for the strength remaining in it after other factors of deterioration have weakened it. Frequently tension breaks are caused by suddenly applying a load to a loose rope, thereby setting up incalculable impact stresses.
ABRASION	Wire break will show broken ends worn smooth to knife-edge thinness. (See Figure 6.) Wire broken by abrasion in combination with another factor will show a combination of characteristics. Figure 7 shows combination of abrasion and fatigue.	Abrasion wear obviously will be concentrated at points at which the rope is rubbed most constantly. These points usually are the grooves of sheaves and drums and any other object with which the rope comes into contact. Unwarranted abrasive wear indicates improperly grooved sheaves and drums, or other localized abrasive condition.
CORROSION	Can easily be noted by pitted surface of wire, with break usually showing evidence of one of the three foregoing factors.	Indicates improper lubrication. Extent of damage by corrosion to interior of rope is extremely difficult to determine; consequently, corrosion is one of the most insidious and dangerous causes of rope deterioration. If hemp center of wire rope is not lubricated and is allowed to dry out, it will collapse and fail to afford proper support for strands, thereby causing marked reduction in rope diameter and extreme internal wear.
CUTTING	Wire will be pinched down and cut at broken ends, or will show evidence of a shear-like cut. (Figure 8.)	These conditions are evidence of mechanical abuse caused by agents outside the installation or by something abnormal or accidental on the installation itself.
TORSION OR TWISTING	Wire will show evidence of twisting and corkscrew effect at broken ends.	
MASHING	Wire will be flattened and spread at broken ends.	

abrasion occur in one short section, or whether they are distributed throughout the length of the rope. Usually wire breaks will be concentrated in the portion of the rope which passes most frequently over the sheaves during normal operation; in sections of rope that wind onto drums most frequently; or in sections where wear is concentrated either by mechanical abuse or other factors.

6. Note carefully the condition of the rope near attached fittings.

Diagnosis

Wire breaks in a rope occur from a number of different causes, of which the more common are shown in the chart.

If it is desired to make a detailed study of rope service to discover the maximum reasonable rope life for a given installation, it is necessary to know the distribution and character of wire breaks, and other defects; their location on the equipment and the rate of deterioration. These data in reasonable detail will indicate either whether a more suitable rope can be used, or whether improvements should be made on the installation.

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TO MARK PROGRESS

Wasson Operators Propose New Production Schedule

Seek permission to produce several days allowable in one flow period on basis this would reduce gas-oil ratios and thus conserve bottom-hole pressure, while also making it possible to save on manpower and automotive equipment

BOTTOM hole energy, manpower and automotive equipment could be conserved, and load capacities imposed on pipe lines and gasoline plants could be smoothed out, if wells in the Wasson field, Gains and Yoakum counties, West Texas, were permitted to produce several day's allowable at one flow period instead of producing their allotment each day. This is the opinion of a majority of operators in the field after conducting flow tests. They have asked the Texas Railroad Commission to approve a production plan that would make it possible for operators to select which of the two practices each would follow.

Flow tests taken by several operators indicate bottom-hole energy can be conserved by recovering several days allowable at one flow period instead of producing the wells every day. The majority of the 1399 wells in the field are flowing. They are capable of producing relatively large quantities, but they cannot be produced by merely cracking the valve. The practice accepted by most operators is that of "stop-cocking," or producing the well in a series of short periods of flow, which bleeds off excess amounts of gas.

Flow tests were made on 16 representative wells in the field. The results of these gas-oil ratio flow tests taken on 10 wells by one operator indicate that the lowest ratio is obtained when the well is permitted to produce a quantity of oil at least comparable to five days allowable in one flow period. The average gas-oil ratio decreases with the quantity of fluid produced at one flow; a ratio of 643 being obtained when the quantity of oil produced was equivalent to 1 day's allowable; 601 for 2 days' allowable; 557 for three days' allowable, and 551 for 4 days' allowable.

Test results of another operator, working independently, substantiate those previously outlined; namely, that the majority of wells in the Wasson field could produce in excess of five times the present daily allowable with an accompanying reduction in gas-oil ratios.

Briefly, the proposal is that any operator may elect to depart from the present regulations for the field, or he may continue to abide by them. If an operator decides to adopt the new production schedule, he must follow these terms: (1) send written notice to the Texas Railroad Commission, and submit a producing schedule for a month's period; (2) This revised schedule must provide for each well being produced at least 6 times in any 30 or 31-day month; (3) the amount produced from any well in any one day shall not exceed 110 percent of the allowable as calculated by dividing the monthly allowable, as determined from the commission proration schedule, by the number of times a well is scheduled to produce that month.

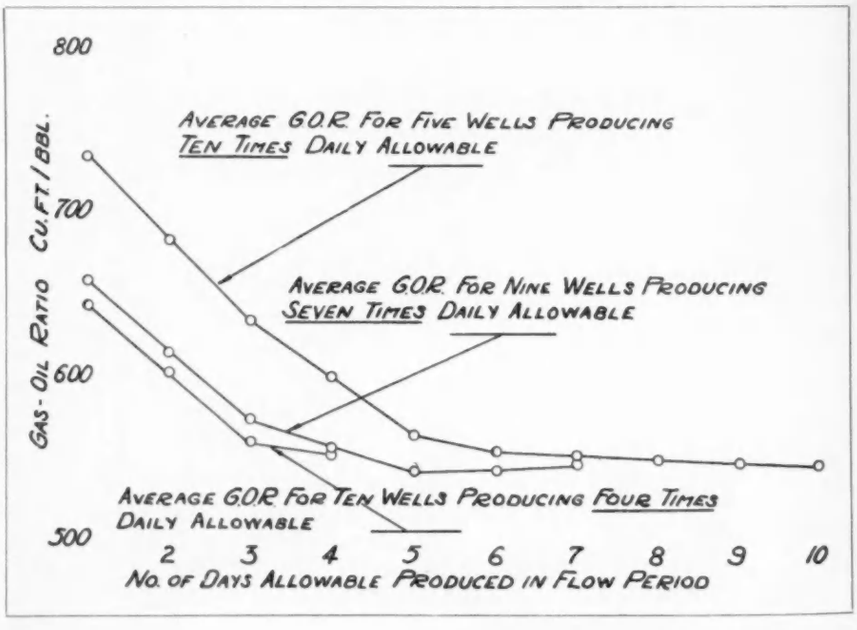
Because each well is an individual with definite and distinctive characteristics, there may be occasional wells that show increased gas-oil ratios as the amount of oil produced in one period increased. In this case it is proposed that the operator determine the optimum flow for the particular well and produce it accordingly. The ultimate purpose is to attain the most efficient individual operation and it is proposed that sufficient latitude be given the operator to accomplish this end.

In addition to reducing the gas-oil ratios and thereby conserving the field's bottom-hole pressure, proponents of the plan point out that it should reduce the use of manpower, should save automobiles and tires, and should smooth out the load imposed on gasoline plants and pipe lines.

The conservation of manpower by a plan permitting the production of fewer wells per day is obvious. Heretofore, with each well producing daily, it has been necessary for workers to visit every well each of the 17 days per month the field is permitted to produce. Wells in the Wasson field are spaced nearly a quarter of a mile apart. It is figured that operating personnel travels 110,000 miles per month on the present daily producing basis. If the production can be obtained in less days, say two thirds of the number now required, a saving in miles amounting to approximately 63,000 could be obtained each month, it was said.

Such a producing plan, it was further pointed out, would permit a more even influx of fluid to gasoline plants and pipe lines. At present the gasoline plant in the area is overworked in the daytime and is under-worked at night. The

[*Continued on page 32*]


800
700
600
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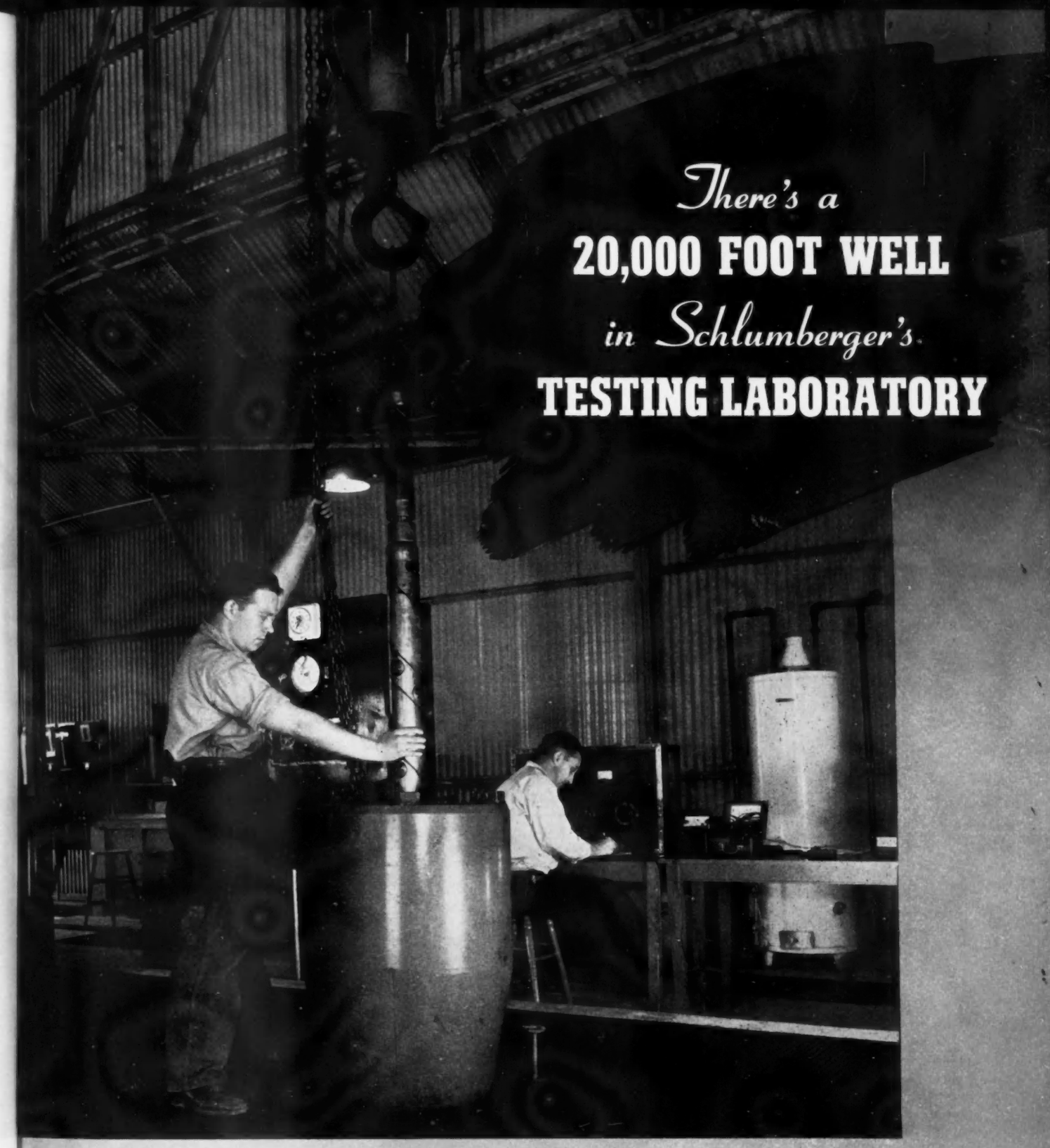
GAS-OIL RATIO CU.FT/BBL.
AVERAGE G.O.R. FOR FIVE WELLS PRODUCING TEN TIMES DAILY ALLOWABLE
AVERAGE G.O.R. FOR NINE WELLS PRODUCING SEVEN TIMES DAILY ALLOWABLE
AVERAGE G.O.R. FOR TEN WELLS PRODUCING FOUR TIMES DAILY ALLOWABLE
2 3 4 5 6 7 8 9 10
NO. OF DAYS ALLOWABLE PRODUCED IN FLOW PERIOD



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Procedure for Reclaiming Worn Slush Pump Rods By Metallizing

By EARL J. CALK
LeBus Rotary Tool Works, Longview, Texas

DUE to the highly abrasive materials pumped, the wear on slush pump piston rods is high, and replacement with new rods has been an item of considerable expense. The amount of wear showing on various piston rods varies from a mere fraction to as much as 3/16 of an inch or more. This wear, of course, makes it impossible to keep stuffing box glands packed. Due to the nature of the work in which these pumps are used, the life of the average pump rod probably is not over 50 percent as great as might be expected in the handling of ordinary fluids. The replacement of worn rods with new ones constitutes an especially wasteful and expensive procedure. Most, if not all, pump rods are made of alloy steels, varying in size from 1½ to 3 inches in diameter and vary considerably in length, so the waste of valuable material going into the scrap pile was considerable.

A procedure for reclaiming worn slush pump piston rods by metalization has been developed, details of which are outlined in the following paragraphs.

The rods are first annealed and are then mounted in a lathe between centers. Due either to service or the annealing the rods are always found to be bent, so, the first operation is to straighten them, and this is done by applying heat with acetylene torch at the point of greatest deflection, or bend, and bringing a set of rollers which are mounted in the tool holder of the lathe against the heated portion, thus forcing the rod to run true, or, in other words, straightening it.

A tool is then mounted in the tool post of the lathe and the rod machined, a very coarse feed being used so as to give a very rough machined surface, almost the same as a threading effect. At each end of this machined portion the rod is under-cut, or dove-tailed so as to lock the metallizing metal onto the rod.

Metal is then sprayed onto the rod to a sufficient depth to give an oversize of approximately 1/32 of an inch greater than the finished size. The rods are then ground and polished to bring them back to the original size.

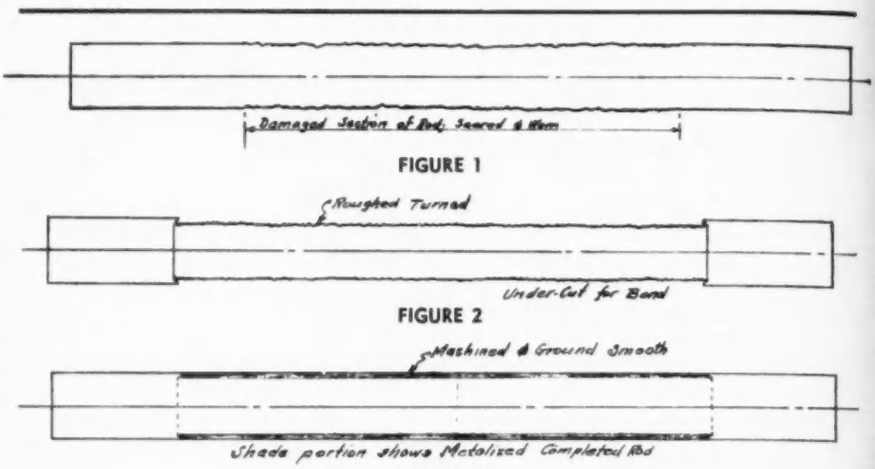

Damaged Section of Rod, Turned & Worn
Roughed Turned
Under-Cut for Bond
Machined & Ground Smooth
Shade portion shows Metalized Completed Rod

FIGURE 1

FIGURE 2

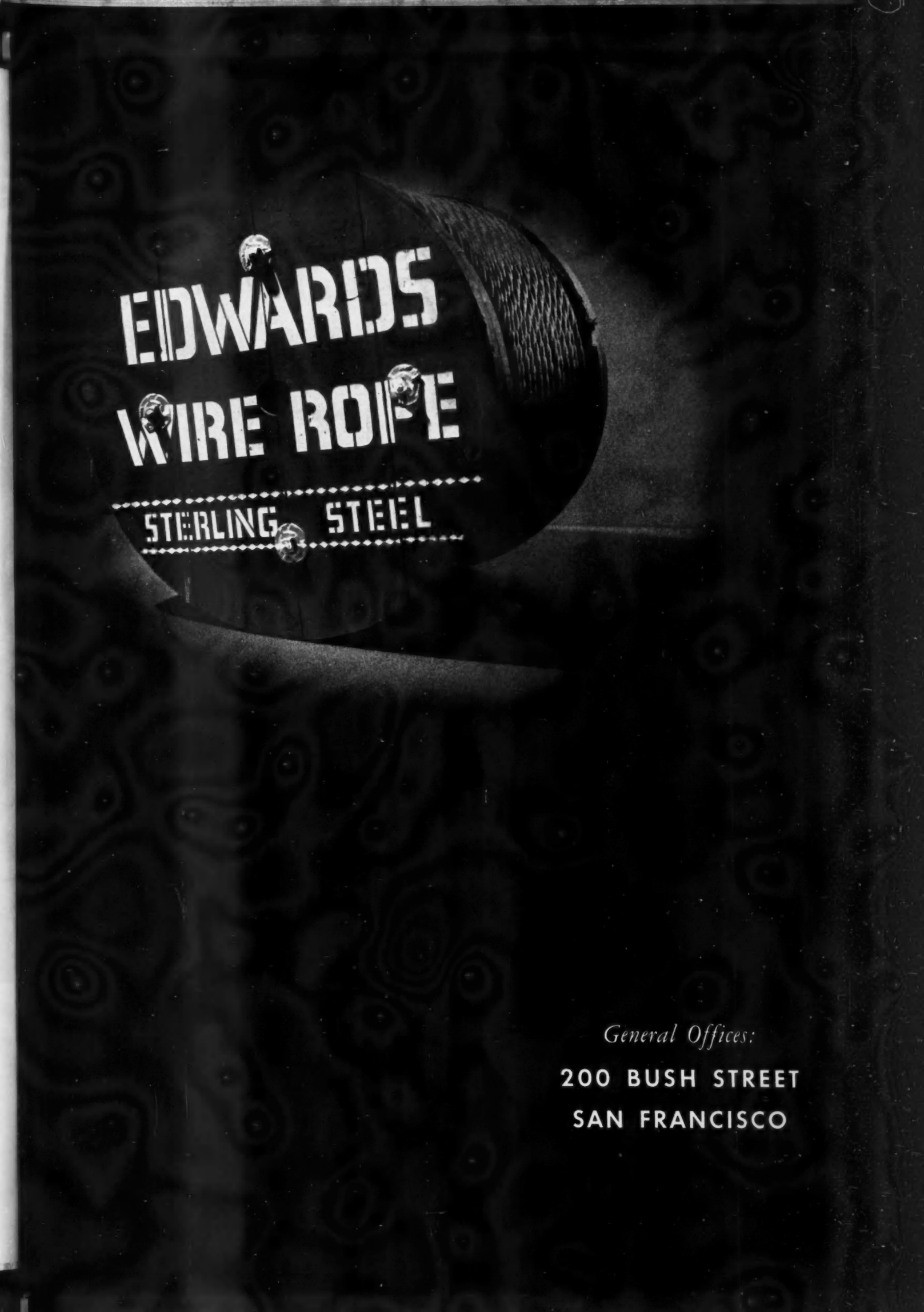
FIGURE 3

For this procedure, a metallizing gun is mounted in the tool post of the lathe and the feed of the lathe used to travel from end to end of the portion being metallized, which gives an even distribution of the metal on the rod. The rod, of course, is being rotated during this process.

Spraying Metal on Rod

In this application a metallizing wire must be used which will give a hardness comparable to SAE-3140 after it has been heat treated. The wire must also be corrosive-resistant, and should contain sufficient chromium to have a stainless steel quality.

After application of the metal under this process, a life equivalent to the useful life of a new rod is obtained and the process can be repeated from two to three times without affecting any appreciable decrease in the strength of the rod. The success of this process depends wholly upon the method of preparing the rod before application, and upon the type of metallizing wire used in the application. This procedure has saved the oil industry considerable expense even before the present crisis and is invaluable now that metals are scarce and manufacturing facilities unavailable.



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PIWC will refute OPA crude raise denial on grounds price is outstanding of all possible discovery stimulants and that adequate oil supply is essential to war, while also attacking subsidy proposal as being highly unpractical

Industry to Fight for Higher Crude Oil Prices

By A. R. McTEE, Staff Writer

CONTENDING that the price of crude oil is the most important controllable factor bearing on the search for new crude oil supplies, the Petroleum Industry War Council is bringing all argument and pressure possible to accumulate adequate rebuttal to Prentiss M. Brown, OPA director's refusal to grant an increase in crude prices.

As a basis for effective remonstrance with Brown's proposals of substitute measures for the stimulation of the search for reserves, the Cost and Price Adjustment Committee of PIWC is engaged in a systematic study of the Brown denial and proposals and memoranda are in course of preparation.

Admittedly, the problem is a complex one. Other factors than price are to be considered, but granting the importance of all non-price components, price dominates in the opinion of most oil men. Profit is the incentive which causes wildcatters to assume business risks. The explorer in the oil business does not drill a wildcat well because he has an abundance of material, manpower, and transportation which he may use with or without restrictions. He drills because he hopes to find oil, and by producing and selling it to make a profit.

Naturally a prerequisite to exploratory activity is an adequate supply of the necessary materials and manpower. At the same time the desire to risk adventure capital is lessened in direct proportion to the number and extent of burdensome restrictions placed upon free enterprise by inexperienced and experimenting bureaucrats. Nevertheless, given all the materials in the world, and a sky-blue free enterprise, not one wildcat well will be drilled without an incentive. These are the fundamental facts, as assembled by the committee, and as it sees the situation, no figures or arrangement of figures will change them. This is the American way of life and it does not depend on statistics for support. The suggestion of subsidies for wildcat wells may be indications of a desire on the part of some to change the system, but the oil business wants none of that. The men responsible for bringing the oil business to its present stage of development are resourceful individuals, and given the incentive they will continue to produce results, it is asserted.

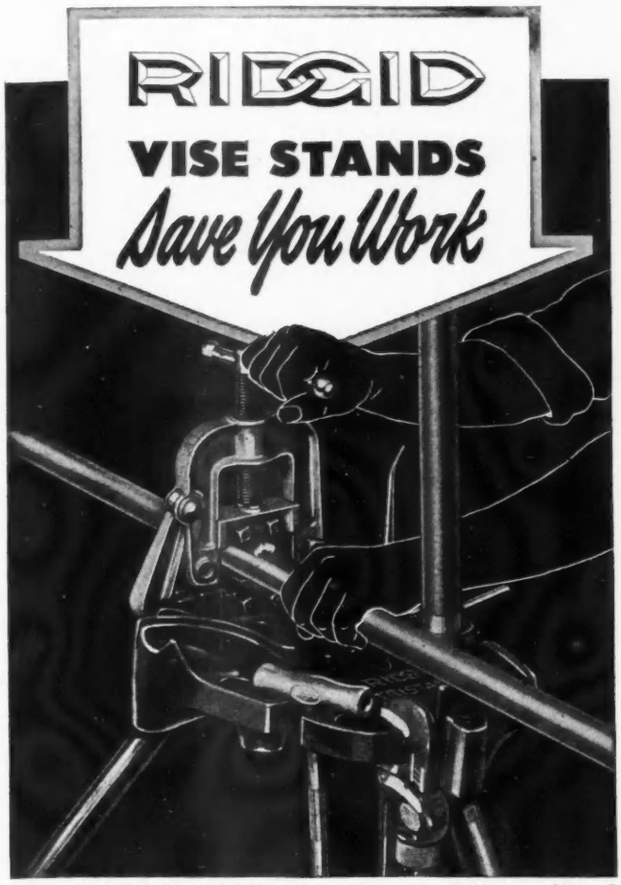
PAW Director Ickes pointed out to OPA Brown in his petroleum-price recommendation of April 7, "that the rate of new discoveries and the ultimate available production from presently known reserves are in no small degree a function of price." He continued, "Our studies convince us that in a matter of months unless new fields are found more rapidly, secondary recovery stimulated and somewhat higher-cost production prolonged, we face first a loss of recoverable reserves arising from wasteful forcing of such flush fields as we still possess, and shortly thereafter an actual scarcity of sufficient amounts of even reasonably low-cost crude oils."

Failure to see or admit this reflects a profound ignorance on the part of OPA Director Brown, of the way in which price operates to stimulate the search for and development of oil reserves, in the committee's findings.

The industry has always willingly used for exploratory work those resources ordinarily available for this purpose and provided out of the reciepts of sales. But the need for expenditures in this connection has outdistanced the resources.

Actually the number of wildcat wells drilled in 1942 was not quite equal to the number drilled in 1941, but the difference makes so small a point as to be inconsequental. The disconcerting fact is that because of continued depletion of the petroleum resource, discovery of reserves is becoming increasingly more difficult. No doubt in years to come great pools will be discovered, as was East Texas, by wildcatting methods, and in contradiction to the best geologic opinions regarding the presence of oil in the locality where it is actually found. But thinking in terms of the general laws of chance, as depletion continues, the difficulty of discovery increases, and more and more effort must be spent to accomplish any measured discovery result.

The immediate actual danger in the opinion of PAW Director Ickes, is "That unless we are prepared now to permit some increases in oil prices in order to stimulate increases in our available supplies, our reserves will continue to be depleted at such a pace that only a drastic increase in prices—perhaps several dollars a barrel, as contrasted with a tenth of that amount if we act now—will be required to find and produce the oil we are certain to need both during the war and after." Just as an inflationary spiral, once started, is difficult to control, so a deflationary effect upon our ultimately recoverable oil reserves, and our daily capacity to produce, can spiral and be difficult to arrest. Once we are compelled to produce our oil fields in excess of their efficient rates, we lose both



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THIS Tri-Stand, for instance, is typical of RIDGID Vises in work-and-time-saving features. It's equipped with a 3-size pipe bender, pipe support, tool slots and plenty of room for oil can and dope pot. LonGrip jaws protect polished pipe. Legs fold in for easy carrying to the job—you can screw feet to floor but it "stays put" without that. Ceiling brace screw is standard equipment. Made also with chain vise. Strong malleable construction. Order this handy vise from your Supply House.

It pays you to have this New RIDGID Catalog

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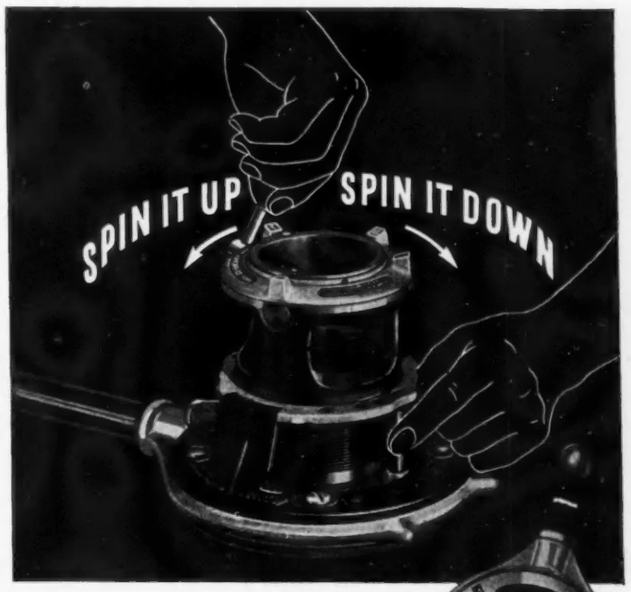
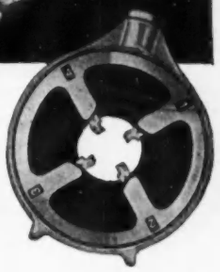
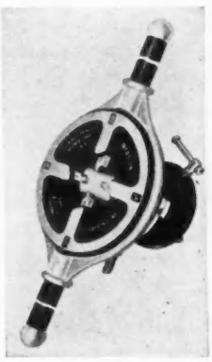


Set it to size in *10 Seconds*



Only 1 set of high speed steel dies for 4 sizes of pipe — and they stay in the threader.



No. 65R is furnished also in 2-handle model; also as a plain die stock, No. 65.

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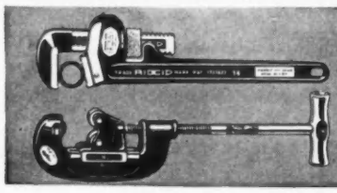
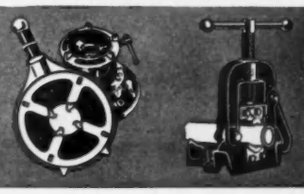


Fast-Working Tools for War... and the Busy Peace that's Coming



ultimately recoverable production and daily capacity to produce.

This sound view is of course supported by the best petroleum economists and engineers in America.

The industry's ability to produce is directly proportional to its proven and developed reserves which can be maintained by constant additions through discovery. John M. Lovejoy, a member of the crude-oil price study group, asserts that the number of exploratory wells drilled is not necessarily an exact measure of the number of new fields that may be discovered or of the amount of reserves thus made available, but it is the best yardstick we have. We are dealing here with laws of chance, the first rule of which is, that the greater number of chances the greater number of hits.

Over a period of years extensions and additions to previously discovered fields have held our total estimated reserves at a figure commensurate with withdrawals, but a large part of these additions merely represent new estimates of old fields. The vital need is for new sources of supply. New discoveries far greater than in previous years are essential to the welfare of the nation at this time.

Surplus productive capacity of the country is from limited sections of the country, in the South, Southwest, and West Texas areas, and is estimated to be about 500,000 barrels per day, representing about 12 percent in terms of current production. Estimates of demand together with decline of other areas indicate that by the end of 1944 the nation will be producing to full capacity, consistent with sound production practice.

Not Enough Wildcatting

There is only one way to correct this situation. Drill more wildcat wells which on the law of averages are bound to result in greater new discoveries. The number drilled in 1942 was far too few. The number actually being drilled and even the number recommended by PAW for 1943 is far too low. What is really needed is discovery of a few real big fields, but in the opinion of many oil men the chances of this are none too good with present finding technique.

Immediate benefits of a price increase as seen by PAW Ickes in his recommendation to OPA Brown are increases in recoverable reserves brought about in the four following ways: 1. By postponing the date of abandonment of thousands of pumping wells. 2. By the installation of more and better secondary recovery equipment. 3. By drilling edge properties and so-called marginal locations. 4. By attracting venture capital from both within and without the petroleum industry to undertake the greatest risk of all—exploring for new fields.

Supporting the belief that these four points hold possibilities for increased reserves, and stressing a price increase as the major incentive, the PIWC committee has declared: "If there is any fault to be found in the price increase method of stimulating search for and maintenance and rehabilitation of producing properties, it is a mere quantative one of degree and not of principle. The industry generally, and many detached students on the subject, are firmly of the opinion that a properly adjusted price constitutes not only adherence to tried and proven experience but is in the interest of the most expeditious achievement of sound production aims."

Secondary Recovery

Touching on secondary-recovery methods, Frank Buttram, PIWC member, presents the problem of stripper wells. To attempt to preserve stripper wells through methods other than price, he observes, contemplates individual treatment for each well. Thus is presented the separate individual problem of about 300,000 wells. To separately study and apply individual treatment to each problem thus presented is equal to individual study of the leaves on the trees or the hair of the head. To attempt this enormous problem means to admit the defeat of time. We might as well assume that the falling leaf or the falling hair indicates a special ailment requiring specific treatment as to here assume these separate oil well problems can be so individually treated. Each individual well produces, oil of the same general kind and character as some other well and must meet in common competition oil produced under varying conditions of ownership, production, transportation, and product-producing qualities. To postpone the solution of the stripper-well problem until it may thus be separately treated is to admit frustration and defeat because of the evident impossibility of developing these separate solutions in time to meet the requirements which we now face.

In the solution of this problem, the industry has recognized the difficulty of separate treatment and also has recognized that price applied at the source strengthens the industry system to the point that it may sustain and preserve these separate wells until the greatest ultimate commercial realization may be obtained through them from the vast reserves they represent. To fail to give some such treatment now may mean the increasingly early abandonment of these reserves. It should be recognized that it is necessary to preserve these wells for the application of secondary-recovery methods as well as to meet the present requirements for the oil now capable of being produced.

Attack Subsidy Proposal

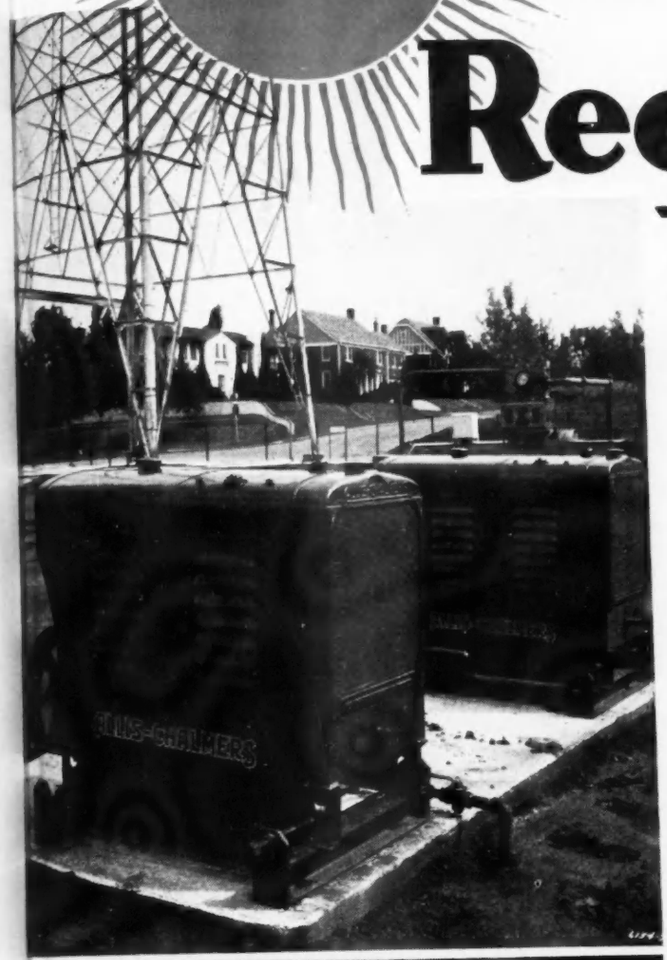
The most repugnant of OPA Director Brown's proposals as price substitute measures for the stimulation of the search for reserves is the subsidy or bonus plan. The PIWC committee asserts that in place of the tried and effective method of price increase, he offers government participation in financing of wildcats and government subsidy to high-cost stripper-well and repressuring operations. For these novel and untried proposals, no funds are available; they would involve an insuperable administrative task in investigating the prospects of thousands of oil leases and in safeguarding the expenditure of public funds. Even if these proposals had some real merit, they would require time to gain acceptance from the industry and from Congress; they would run the risk of delay. Crude oil cannot be found overnight. If Brown persists in his refusal to concur with the recommendation of Secretary Ickes, the committee suggests he will be responsible if we should find that we have too little and too late.

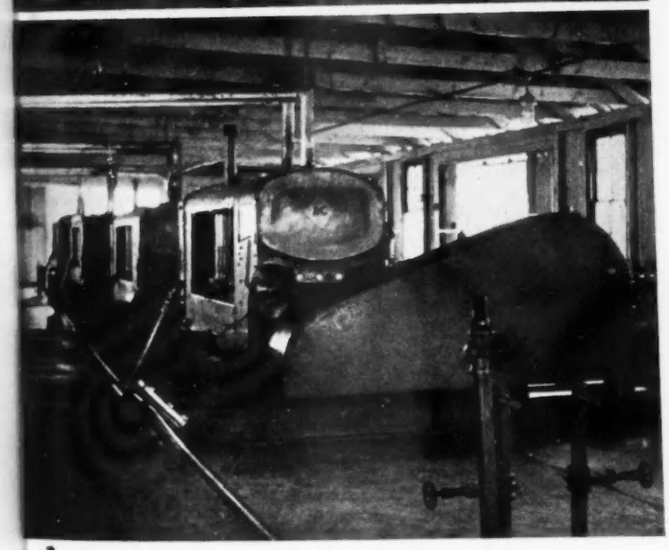
PAW Ickes, having in mind the President's "Hold-the-line" order, has stated that in his mind there is no doubt that if it were found, as a matter of fact that the production of petroleum and its ultimate transportation and delivery to the war front would aid in the effective prosecution of the war, we would have the legal duty to increase the price. He further said that in following out the President's order, we must exercise whatever discretion we possess in that direction, to a minimum, with respect to the raising of prices of any commodity that would affect the cost of living.

To the extent that some might derive a small windfall from such an increase, the director said that he preferred to leave that to be largely recaptured by existing taxation rather than have the government itself enter this most speculative of businesses, or by indirection reach the same result by undertaking the colossal task of administering some subsidy arrangement. The true costs of finding and producing oil, including the risk of loss as well as the chance for profit, ought to be borne by the users of the product in proportion to their use and not become a governmental charge against user and non-user alike.

In translating higher crude prices into higher product prices, it was PAW

Oil Must Move Regardless





UPPER PHOTO: A-C Model W Engines operating oil circulating type well pumping equipment.

And the oil man with pumping wells will have the responsibility of seeing that it keeps moving regardless of what it takes.

HOT SUMMER WEATHER

Will take its usual toll of pumping equipment — Right when it's most needed to keep oil moving in our war effort. But this summer will be no different than any other for Allis-Chalmers Engines. **They have always been the producers best bet on a pumping well — and still are.**

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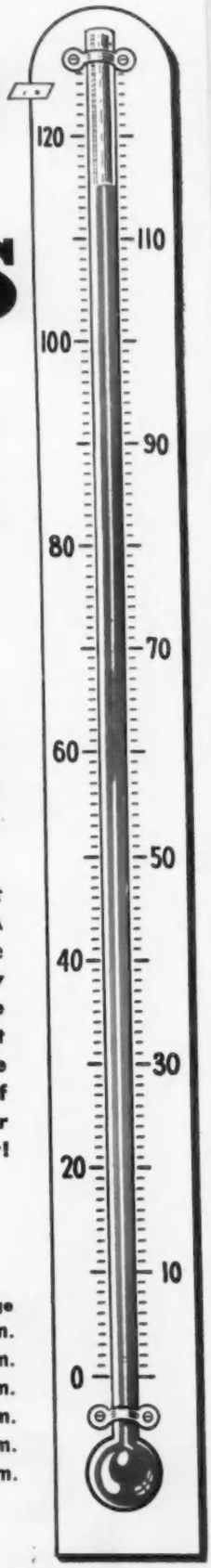
Model E	400 ft. lbs.	600-1200 r.p.m.
Model U	200 ft. lbs.	700-1200 r.p.m.
Model W	128 ft. lbs.	800-1300 r.p.m.
Model C	80 ft. lbs.	900-1400 r.p.m.
Model B	74 ft. lbs.	900-1400 r.p.m.



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LIFE EXTENSION SERVICE FOR OIL WELLS

director's idea that a very substantial part of the necessary increases should be placed upon fuel oils. Only thus can we preserve and protect our essential reserves of crude oil by deterring their dissipation in admittedly inferior uses.

On this point, the price study committee expresses sympathy with the general objective of avoiding the consequences of wild inflation. But it is also mindful of the fact that it is even more important that there should be available a plentiful supply of petroleum for the immediate, and all-important purpose of winning the war; and moreover, that increases in price that are necessary to achieve required production are in no sense to be regarded as inflationary.

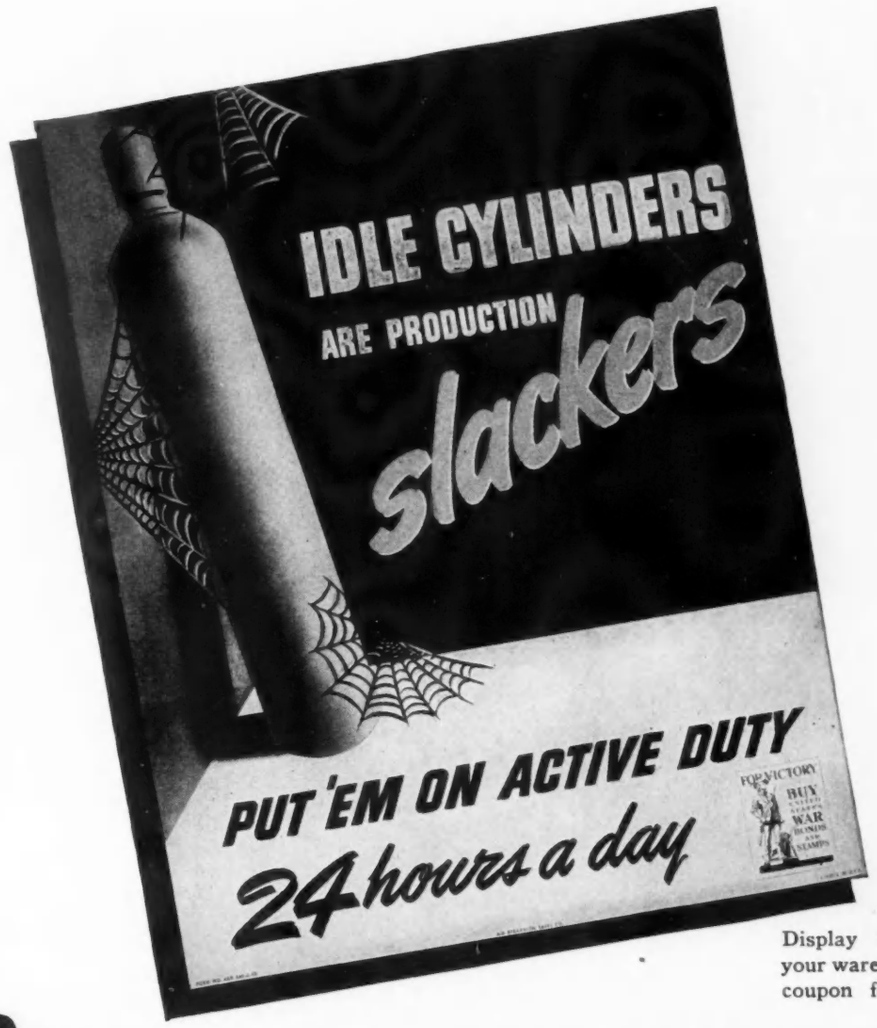
OPA Director Brown based his refusal to grant the price increase on the "hold-the-line" order, notwithstanding PAW director's recommendation for the increase. In his letter of refusal, OPA Brown says: "The act of October 2, 1942, and the executive order of April 8, 1943, require this office to use all discretionary powers vested in it by law to prevent further price increase and that the only increases that could be made effective were increases required by law. Although I do not feel that this is the place to discuss all the implications of this order, I am not of the opinion that such an increase could be justified thereunder."

The PIWC Committee for Study of the Price of Crude feels that Brown has taken the easier course in rendering a negative decision on PAW administrator's recommendation, and that had he studied the matter sufficiently either before or after receipt of the recommendation, he would have minimized some of the legal objections to the proposed increase and would have in the end acquiesced to the proposed price increase as the tried and proven method which he is willing to accept as valid from the studies of the Petroleum Administrator, namely to expand and intensify the search for petroleum reserves. The fact that OPA apparently is overlooking the relation between price and reserves is undermining the whole proposition.

If the price were economic, that is, suited to the need, then the OPA subsidy plan would have a better chance of successful administration. But if the price of crude were suitable, then obviously the savings which OPA has estimated from the administration of their plan would not materialize. In short, the override interest loan plan would not be as good as its authors think it is.

The OPA project assumes there is a much cheaper way of doing the old job than the way which is current, despite the many thousands of minds working on it for many years. If the price of crude oil is not an economic price, that is, a proper price, and if the government finances wildcatting as proposed to OPA, then the government would have to continue to finance production all the way, including the financing of development wells and actual production. The role of price must become clear sooner or later. Even if many discoveries were made by the subsidy procedure, or its rough equivalent of a loan procedure, a price increase would be needed to implement production.

The whole problem in its confused state focuses attention on the lamentable situation of conflicting and divided authority between government agencies. As pointed out in THE OIL WEEKLY of May 17, PAW is an elaborate and expensive organization for the study of physical operation, financial results and all other matters pertaining to petroleum. That its decisions can be stalemated by OPA, an agency involved in matters of general economy is most regrettable and serious. As was previously stated in this publication, "This action of blocking a measure regarded by the Petroleum Administrator as essential in waging the war, raises again the question of whether such important power should be left in the hands of OPA."



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Wartime Oil Needs

[*Continued from page 15*]

lower sections of the Texas Gulf Coast and West Texas and New Mexico.

Crude oil stocks of the United States at the middle of May, 1943, were at practically the same level as at the time of Pearl Harbor, although they went up about 20 million barrels in early 1942, subsequently declined 30 million barrels in the latter part of 1942, and finally in 1943 have again risen 10 million.

While the crude stocks of the nation are about the same as in December, 1941, there have been important changes in the inventories of different grades. Since Pearl Harbor the stocks of Oklahoma grade have been reduced 14 million barrels and of Illinois-Indiana grade 7 million. Rocky Mountain stocks have been lowered 2½ million barrels and California grade ½ milion. There have also been withdrawals of the following grades: Pennsylvania, Lima - Michigan, Arkansas, Mississippi, and foreign. Offsetting the reductions in above mentioned grades have been increases in stocks of various other grades since Pearl Harbor including gains of 2½ million barrels in East Texas, 7 million in West Texas, 5½ million in the Texas Gulf Coast, 9 million in other Texas districts, 1½ million in Louisiana Gulf Coast, 1 million in North Louisiana, 1 million in Kansas, and about 200,000 barrels in New Mexico. Stocks of Oklahoma and Illinois grades have been largely depleted, and no important changes of crude inventories are indicated for the remainder of this year.

Wasson Operators

[*Continued from page 22*]

rate of gas production in the daytime nder the present plan amounts to 50 million cubic feet, while that at night aries from 10 to 15 million cubic feet. The plant has a capacity of 29 to 30 million cubic feet, and thus cannot handle the daytime output of gas and has an insufficient supply at night. If these peaks were smoothed out, the plant might operate at rated capacity, with consequent increase in the production.

The same crowded and lean condition exists for pipe lines. Pipe lines are hindered during the first four or five days of each month by the fact that little oil is available for running during this period. It is the opinion of one pipe line operator that proper scheduling of well production under the proposed plan, would so relieve the slack at the beginning of the month that it would be possible to run several additional days' capacity through the line.

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Bridge ruptured at .00030 seconds
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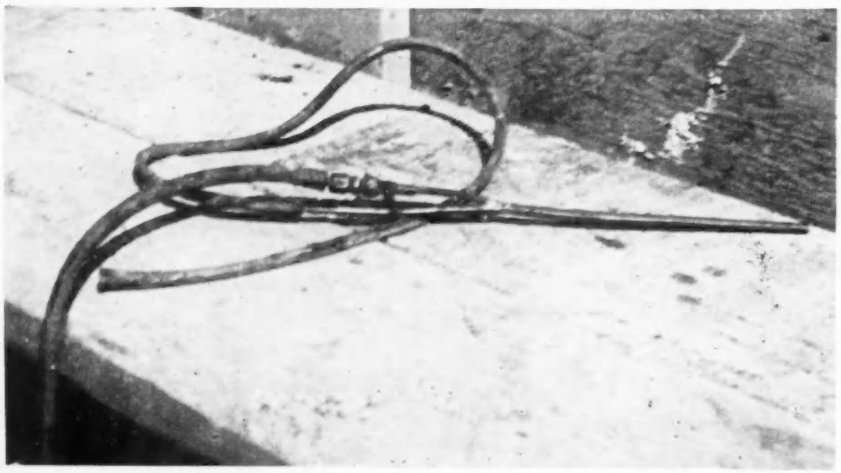
PRACTICAL OPERATING *Hints* FOR THE DRILLING RIG

$5.00 will be paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, *Houston.*

1. CLEANING

Mixing Nozzle Speeds Grease Removal



Air pressure mixes and powers stream of solvent to insure rapid removal of oil and dirt film with drying jet available by removing pick-up line from fluid source.

WHERE compressed air is available at the rig, it may be used with a simply constructed nozzle to aid in washing down equipment. The unit is composed of a short length of pipe or tubing, within which has been welded a short bend of smaller pipe, this latter terminating in a jet pointed toward the delivery end of the device.

By attaching the air line to the inner line, and equipping the suction end of the device with a short hose, the nozzle may be used to pick up cleaning solution, light solvents, or other liquids from a bucket or sump, delivering it with considerable pressure in the form of a fine spray.

The same air spray, with the suction hose free of the solution, may be used to dry a cleaned surface quickly, and thus to permit renewal of lubrication and immediate return of the unit to service.

When using the nozzle with kerosine or hydrocarbon solvent it is essential to keep fire away.

2. BOILERS

Handhole Drains Aid Setting Stability

DRAINS from the mud-ring handholes beneath the shell of a boiler can be made by using a minimum amount of material. To make the individual drain leads, a nipple long enough to reach from the boiler to the waste flume is marked so that two leads can be made from one pipe nipple.

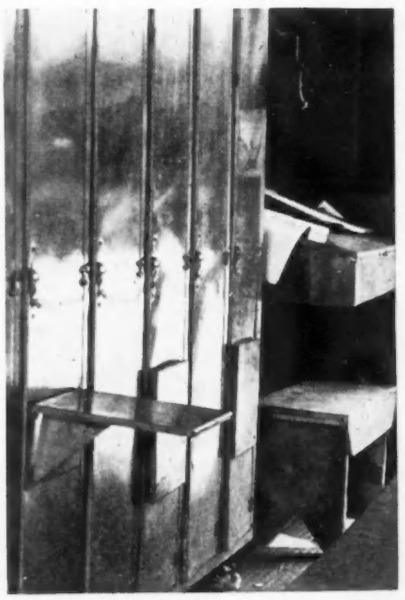
A long diagonal cut is made which forms a rounded tip for the part to be placed beneath the boiler, leaving a narrow circle of metal which keeps the large end in shape.

The rounded tip can be jammed beneath the mud ring of the boiler between it and the supporting pipe to retain it in position for an extended time of boiler operation. Not easily damaged or deformed, these leads will long serve for draining boilers.

Sections of old pipe, cut on slight angle, reach from clean-out opening to drain line at edge of firebox support mat and carry wash stream beyond area of boiler fittings.

3. CONVENIENCES

Auxiliary Shelves Extend Locker Use



Small shelves, hinged to locker doors, fold down against support to afford table for spreading lunch.

TO PROVIDE a convenient place for the crew to eat in, light weight steel shelves may be bolted or riveted to alternate doors of the individual lockers in the rig dog-house. These shelves are crimped at the edges for stiffening and have butt hinges at the back attached at a height that the dinner pail may be

placed above the operator's knees when he sits on one of the benches.

A triangular strap of iron, hinged to the shelf can be unfolded to act as a brace to hold the shelf horizontal when being used. A kicker plate is tacked to the door of the locker against which the lower tip of the brace rests so that the door will not be dented if unusual loads are laid upon it.

4. MAINTENANCE

Jet Removes Clog From Blowdown Line

Tap from steam line to jet inserted in blowdown line enables pressure use for clearing pipe.

WHERE a long drain is required on boiler blowdown lines and the terrain imposes low spots in which fluid can collect, serious constriction or even closure of the line may occur through the deposition of sediment.

By installing a steam jet in the drain line, at a point beyond the last of the low spots, it is necessary only to turn on the steam and open the line near the boiler end to set up an exhaust action with high-pressure steam blowing through the line.

The reduction of pressure behind the steam jet carries out at high speed the water and sediment collected in the low spots. The relatively small amount of water condensing from the high-pressure steam, in contrast to the silt-laden fluid from the blowdown, leaves a comparatively free line for the next routine purging of the boilers.

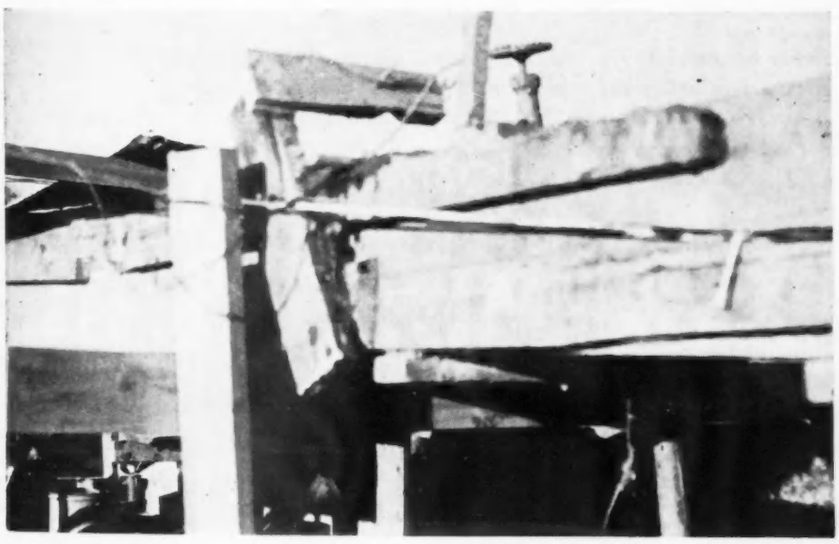
5. MUD CONTROL

Float Alarm Signals Circulation Change

UNLESS work on the derrick floor is such as to permit constant supervision over the mud stream, it is possible for returns to fall off sharply, or even to stop entirely, before the change is noted by members of the busy crew.

To provide audible or visible evidence of mud flow cessation, one contractor mounts a float or paddle in the mud flume in such a manner that proper volume holds an attached arm upright. The end of this arm carries a contact which closes a circuit if the mud flow ceases and thereby allows the arm to drop. The circuit thus closed may be that of a bell or some light.

When the mud flow is intentionally cut off, the contact is neutralized by inserting a folded bit of paper between the exposed metal blades. Resumption of the mud flow automatically lifts the arm, releasing the paper and thus again making the contact "live" so it will again signal stoppage.



Paddle in flume, held in clear by mud stream, drops and closes circuit on warning device when volume falls below that calculated to flow from well bore under normal drilling.

MOSER MEASURING MACHINE

Eliminates scarce measuring lines —works off Sand Line. Quickly attached. Accuracy to within plus or minus two inches on 4,500 Ft. wells. Available for immediate delivery. Ask your Supply Store.

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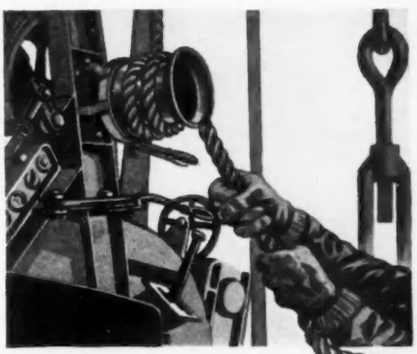

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☆ ☆ ☆ ☆ WASHINGTON ROUNDUP ☆ ☆ ☆ ☆

THE East Coast shortage continued to monopolize the attention of government officials concerned with oil last week, with little prospect of any return to normal conditions in the area before next fall at the earliest.

Tank car deliveries into District 1 averaged 890,897 barrels daily for the week ended May 29, an increase of 6129 barrels over the preceding week, but are expected to continue below pre-flood levels for some days. Kerosene deliveries in drums averaged 8126 barrels per day, a drop of 3623 barrels, and are due to continue to decline, probably being eliminated entirely within a month because of the need of the army for the containers. The total rail movement was 899,113 barrels.

Stocks of oil on the East Coast continued to decline, dropping 55,430 barrels a day, and stood at 25.7 percent of normal at the close of May. In the preceding week 49,857 barrels were taken from storage daily in the East, and stocks stood at 26.8 percent of normal.

The East Coast situation and the future supply outlook were major subjects discussed at the curtailed June meeting of PIWC, which, however, had no suggestions to make with respect to the former, agreeing with PAW officials that nothing less than drastic actions would have to be taken to meet the cricis. PIWC's economic committee predicted that demand for oil would increase so greatly during the remainder of the year, that the fourth quarter would see the withdrawal of considerable oil from storage although crude production was expected to average 4,158,000 barrels daily in contrast with a current output of 3,984,000 barrels.

The construction of a 383-mile 16-inch oil line from West Texas to Northeast Oklahoma by Stanolind Pipe Line Company was approved by WPB. It will make prorated West Texas production available to most of Oklahoma's large truck carriers to the Middle West and East, which are expected to have idle capacity due to declining production rates in Oklahoma.

Extension of the good-neighbor policy to the Mexican oil fields was on the cards for this week, as State Department officials conferred with a Mexican mission regarding acquisition by the latter of a high-octane gasoline refinery, and at the same time the Treasury Department laid the groundwork for post-war recovery of American properties in foreign countries lost, temporarily, to the enemy.

Eastern Stocks Decline to New Low; Outlook Critical

PIWC Told Production Needs to Soon Rise Sharply

WPB Approves Stanolind's West Texas to Oklahoma Line

PAW Issues Interpretations on PAO No. 11

Mexico Seeks U. S. Materials And Money for Aviation Gasoline Plant

By B. F. LINZ
Washington Correspondent

☆ ☆ ☆ ☆

PIWC Says Demand in Fourth Quarter to Be Half Million Barrels Above Current

After allowing for sizeable reductions in stocks, it is indicated that crude-oil production of the United States will increase to 4,155,000 barrels daily in the final quarter of this year, compared with 3,984,000 barrels in recent weeks and 3,880,000 barrels in the fourth quarter of 1942, PIWC was told at its June meeting by its Committee on Petroleum Economics.

"Even with this rate of production," it was pointed out, "crude stocks will decline 179,000 barrels daily in the fourth quarter. Crude production required, if there were no change in crude or product stocks during the fourth quarter of this year, would have to be 4,351,000 barrels daily. This emphasizes the magnitude of the crude production problem."

The committee anticipated that crude runs to stills would be 4,158,000 barrels per day in the fourth quarter of 1943, and nearly 4,200,000 barrels daily in the first quarter of 1944, compared with an estimated 3,900,000 barrels in June and 3,719,000 barrels in the fourth quarter of last year.

It was estimated that total domestic and export demand in the fourth quarter of the year would amount to 4,612,000 barrels per day, 320,000 barrels greater than during the corresponding period of 1942 and 493,000 barrels higher than calculated demand during the current month of June.

The committee declared that due to increasing transportation available to the East Coast, "supplies will exceed even next winter's peak rationed civilian demand." However, it warned that the "extent of rationing and the questions of further conversions and District 1 stock schedules are controlled entirely by the extent of military requirements."

In this connection the committee's Chairman R. E. Wilson said that the lifting of the ban on disclosure of military requirement estimates, recently agreed to by Army and Navy officials, will enable the development of more comprehensive forecasts of demand upon the oil industry. However, it was pointed out that no action has yet been taken in regard to the basic information necessary for the foreign economic committee to carry on its consulting function in regard to programming of foreign supplies which is necessary for efficient planning. The June report was prepared as in the past without benefit of information on military requirements.

East Coast Deliveries

The committee foresaw the delivery of larger supplies to the East Coast than civilian needs although it scaled down slightly its estimates of supplies available to District 1. Basing delivery forecasts on PAW estimates of available transportation facilities, the committee predicted daily deliveries this month at 1,405,000 barrels and for the third quarter at 1,540,000 barrels, for the fourth quarter 1,627,000 barrels, and for the first quarter of next year 1,577,000 barrels.

The responsibility for producing the enlarged quantities of oil that will be needed will fall on District 3 and principally Texas. "Although a substantial increase in demand for crude oil is indicated for the United States," the council was told, "declines in actual production are anticipated in Districts 1 and 2. Production in Districts 4 and 5 will remain at approximately current levels, but the estimate for District 5 is lower than in the previous forecast. Consequently, production in District 3 must increase not only to meet additional demand but also to offset the decline in Districts 1 and 2. Even assuming that crude stocks in District 3 will be reduced 61,000 barrels daily in the fourth quarter of 1944, it will be necessary for production to increase to the range of 2,250,000 to 2,300,000 barrels daily compared with less than 2,100,000 barrels daily at the present time." Recent large demands, with new plants coming into operation, indicate that consideration should be given to immediate increases in crude production and runs in District 3 the report concluded.

Other Problems

Other major problems confronting the industry were summarized by the economic committee as follows:

1. Large pipe line construction ap-

pears desirable for West Texas into District 3 in time to meet by early 1944 an increasing shortage of crude, due to decreasing production in District 2 and increasing requirements for refineries.

2. High yields of residual fuel oil in District 3 must be maintained in the near future in view of large demand and low stocks, although subsequently residual-fuel-oil yield must be reduced to the minimum possible in order to avoid undue stock accumulation.

3. District 5 will apparently draw 74,000 barrels daily from crude and product stocks in the first quarter of 1944 even if a maximum efficient rate of 794,000 barrels daily were realized. At the end of that period stocks of crude are estimated to be at bare working levels, emphasizing the necessity of carrying forward promptly studies as to how demands upon that area can be met most effectively, either by expanded drilling, providing transportation into the district or diverting some demands to other sources. This analysis would show the relative steel requirements for increasing drilling operations in the district and increasing supplies through the use of alternative sources.

4. Despite the efforts of PIWC to call attention to the question, the government has not remedied the serious situation arising out of the large sum of money owed to the industry on excess transportation costs, tanker hire, etc., which is well in excess of $300,000,000, and continuation of which situation is bound to impair the efficiency of the industry.

Resolutions adopted by the council recommended that the limitation on royalties to 12½ percent for 10 years following the date of new discoveries on the public lands be revised, in the interest of encouraging prospecting and development, to apply on the actual sale price of the oil production until 10 years following the end of the present emergency, on all leases not producing on December 24, 1942, and in all new horizons, zones and pools discovered subsequent to that date, whether or not included within unit agreements.

They also recommended that the War Labor Board and Internal Revenue Bureau permit application of oil company plans to adjust supervisors' salaries in accordance with the adoption of the wartime minimum work week of 48 hours.

Eastern Stocks Become So Low They Threaten Essential War Activities

With the East Coast gasoline situation giving no promises of improvement, administration officials last week settled down for a long pull to get the area through its crisis without a complete breakdown of transportation and a stoppage of vital war production.

The critical situation served to draw together, at least temporarily, the three agencies which heretofore have been at loggerheads most of the time over oil problems—PAW, WPB and OPA—and when, on June 1, Ickes advised Brown that his agency would be unable to supply the 356,000 barrels daily of gasoline which originally had been allocated for civilian consumption this month and would have to cut the allotment to 326,000 barrels, OPA immediately cooperated with a cut in the value of B and C coupons from 3 to 2½ gallons and directed local boards to deny applications for additional rations to restore mileage lost as a result of the cut, aimed at saving the necessary 30,000 barrels.

Explaining the necessity for curtailment, Davies advised Brown that the demands for military uses are heavier than ever and will remain high, excessive civilian consumption in past weeks has caused such a heavy reduction in gasoline stocks that workable inventories no longer exist in appreciable quantities, particularly north of the Potomac River, and flood interruptions to the oil movement from the West will dimish the amount of gasoline which can be transported to the coast during the next few weeks.

"Simply stated," Davies said, "here is our present position: Stocks have been so reduced that they are now barely adequate, if that, to meet absolutely essential requirements. Therefore, unless consumption is reduced and at least a partial replenishment of inventories accomplished, it seems inevitable that not only civilian services but activities really essential to the successful conduct of the war will be seriously disrupted."

At the same time, Ickes, who already had gone on the air to tell the public of the situation and to warn the Mid-West that it, too, might be drawn into the shortage area by the steps taken to keep minimum supplies flowing to the East, made it clear that victory in North Africa does not mean that oil from the Near East will be available to meet all of the needs of the United Nations in the European theatre, freeing East Coast stocks for home consumption.

Mediterranean Demand

"The opening of the Mediterranean Sea promises no relief in the supply of oil for civilians on the Eastern Seaboard," he said. "Supplies originating in the Near East have long been earmarked for specific purposes.

"The United States must and will continue to ship petroleum supplies to Europe and North Africa. Let no one be misinformed. Victories in Europe and Africa will not, for the present at least, help improve the East Coast petroleum supply situation so far as civilians are concerned. If anything, victories mean that we must send more and more oil overseas.

"The armed forces will get as much oil and gasoline as they need. There is no use in anyone kidding anyone else about it—petroleum stocks on the Atlantic Seaboard are down and supplies available for civilians will be tight for some time to come."

Speed Movement

PAW during the week took several decisive steps to speed up the movement of gasoline, the most comprehensive of which was the streamlining of transportation in District 3, setting up a zoning system to eliminate cross-hauling and back-hauling; substituting, wherever possible, pipe-line movements for barge, tank-car or transport-truck movements to eliminate or shorten the latter within the district, and taking such other steps as may be possible to free facilities for movement toward the East Coast and to increase the concentration of surplus supplies available for Eastward shipment.

In another emergency measure, PAW authorized rail movement to the Coast of gasoline delivered to West Virginia and Western Pennsylvania river ports by barge, and at the same time moved to increase the volume of gasoline moving Northward from Plantation Pipe Line terminals at Greensboro and Richmond, impressing trucks into service to carry shipments from Greensboro at the rate of 8000 barrels a day, as well as tank cars and barges.

The OPA cut in the value of B and C coupons applied only to the "famine" area from Virginia to New England, but an investigation of supplies in North and South Carolina, Georgia and Florida was instituted to determine whether the order should be extended to those states.

OPA also gave filling-station operators in the affected area liberty to set their own hours and to limit the number of gallons sold to each customer, and of gallons sold to each customer.

Forecast of Oil Demand, Production and Refining Rates

(Prepared by Economic Committee of PIWC)

	1942		1943			1944
	3rd Q.	4th Q.	June	3rd Q.	4th Q.	1st Q.
Crude Oil Production	3,783	3,880	4,037	4,157	4,155	4,183
Natural Gasoline & Condensate Prod.	226	238	253	257	270	275
Refinery Crude Runs to Stills	3,687	3,718	3,918	4,040	4,158	4,197
Stocks of Crude—End of Period	250,400	245,400	248,400	239,600	223,200	207,600
Stocks of all Oils—End of Period	518,000	501,800	502,500	513,800	496,000	475,600
Changes in Stocks of All Oils	—36	—164	—174	+122	—196	—226
Local and Export Demand:						
Gasoline	1,750	1,633	1,674	1,730	1,732	1,743
Kerosine	142	210	147	158	235	251
Distillate	422	612	424	478	694	732
Residual	1,027	1,158	1,115	1,144	1,238	1,272
Lubricants	94	97	106	110	109	111
Asphalt and Road Oil	158	122	139	136	83	67
Other and Loss	480	459	514	532	521	499
TOTAL	4,073	4,291	4,119	4,288	4,612	4,675

Thousands of Barrels Daily, except Stocks in Thousands of Barrels.

WPB Approves Building of West Texas-Oklahoma Line

Construction of a 383-mile 16-inch crude oil pipe line from the Slaughter field of West Texas to Drumright, Oklahoma, was approved by WPB June 3. The line will provide needed additional crude supplies for Middle West refineries, though being able to tie into practically all major trunk systems extending north and east from Oklahoma.

The line will be financed and built by Stanolind Pipe Line Company. It will have a capacity of 54,000 barrels per day with a single pump station located at Slaughter. A total of 44,600 tons of steel is estimated to be required for its construction. When needed, the capacity of the system could be stepped up to 116,000 barrels daily by the addition of intermediate stations. Construction will start in October and is due to be finished in March.

In addition to tieing into Stanolind's main line at Drumright, the line could connect near Drumright and Cushing to the following lines: Texas, Texas-Empire, Shell, Empire, Gulf, Sinclair, Oklahoma - Ajax, Magnolia, Standish, Mid-Continent, Tide Water, Continental and Champlin.

With Oklahoma production declining these lines are expected to have idle capacity, through which the West Texas oil could be shipped north and east to Middle West refineries. The line, in tapping West Texas, will give outlet to the region with the largest quantity of curtailed production in the United States, in addition to making it possible to use existing transportation system to advantage.

Urge Early Action On Oil Price Law

Immediate action on the Patman resolution calling for an increase of not less than 35 cents per barrel in the general price of crude has been asked of the House Banking and Currency Committee by the Independent Petroleum Association.

The resolution was based on the investigation by Patman's committee on small business into the oil situation, which blasted out of the OPA Ickes' recommendation for a general increase in oil prices which Brown and Sumner Pike, in charge of oil prices, had proved highly reluctant to disclose or discuss.

Patman also has on file an amendment to the price-control act which would transfer authority over petroleum prices from OPA to PAW.

OPA Shakeup Places Wallace in Fuels Section

Internal friction within the OPA and outside criticism of its pricing policies climaxed last week in the resignation of Deputy Administrator J. K. Galbraith—a member of the "college professor" group which for many months played a prominent part in the development and direction of the domestic economy—and the appointment of two temporary deputy administrators to split his duties.

One of the new officials, Donald Wallace, formerly director of the industrial maunfacturing price division, will be in charge of all price controls except food, and will, among other things, govern the fuel-price division.

Galbraith, who played a dominant part in much of OPA's policy-making activities, has been a target of bitter and continuing criticism from Congress in trade groups who blamed him for many rulings which they termed "half-baked and impractical."

Within the agency, Galbraith and Lou R. Maxon, top-flight advertising executive in charge of public relations, waged a long fight for control, Maxon demanding that he be made "general manager" of OPA and promising that, if he got the job, he would give Galbraith 15 minutes to clear his desk.

Further changes are expected to be made by Brown in the near future, including a decision whether to make Maxon general manager of OPA—a decision which would precipitate a general housecleaning of the aides brought in under Leon Henderson and Galbraith—but the administrator declared that "these changes will not affect price policies and programs which are under way."

OPA Sets Prices For Two Texas Fields

Specific maximum prices at the receiving tank for crude from the Talco and Sulphur Bluff fields, Texas, were fixed by OPA June 1, as follows:

Below 20 API gravity, 80 cents per barrel; 20-20.9, 82 cents; 21-21.9, 84 cents; 22-22.9, 86 cents; 23-23.9, 88 cents; 24-24.9, 90 cents; 25 and above, 92 cents.

The following day OPA set specific prices for oil produced in the Aliso Canyon, California, field, to replace the uniform 94 cents per barrel fixed last March 26 for all gravities.

The new schedule set a price of 89 cents per barrel for gravities between 15 and 21.9, stepping higher gravity oils up as follows: 22-22.9, 91 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.02, and 26-26.9, $1.05.

Oil Price Schedule Interpreted by OPA

The applicable posted purchase prices for sales of crude petroleum at the receiving tank are applicable, even though title passes to the purchaser when the crude enters the gathering lines of the pipe-line company, it was held last week by OPA in an interpretation of Price Schedule No. 88.

The agency also released other interpretations of schedule provisions, including the following:

A pipe-line company proposes to charge the purchaser of crude oil a marketing charge of one cent per barrel in connection with sales at points other than the receiving tank. The charge is for service incidental to marketing the oil and includes examining titles, preparing division orders, keeping an account of the oil runs, breaking the runs down as to ownership of the oil run from each lease, and making monthly disbursements of funds for the oil run during the preceding month. This marketing charge may be made in addition to receiving the maximum price for the oil from the purchaser, provided that an identical charge was made for the identical service on sales at other delivery points on October 1, 1941.

A seller had a normal volume of sales of 2000 barrels a day, or 50,000 to 60,000 barrels per month. Where the only sale of fuel oil in the 60-day period preceding October 15, 1941, was a sale of 2000 barrels, it was a sale of a "substantial quantity" within the meaning of Section 1340-159 (b)(2).

The addition to the maximum prices of gasoline, permitted in the Eastern Seaboard area, may be charged on delivered sales to any point in that area, regardless of the point of shipment. However, if the sale is f.o.b. a shipping point outside such area, the additions may not be made to the maximum price, even though the shipment is destined for a point in that area.

Mexico Seeks Finances and Materials for Gasoline Plant

Negotiations for acquistion of a 100-octane gasoline refinery by the Mexican government are underway between State Department officials and a Mexican mission in Washington for the purpose, but administration officials last week declared flatly that nothing has been settled regarding either the financing of the project nor the manner in which the equipment is to be provided.

It was disclosed, however, that there has been an agreement "in principal" of the desirability of assisting Mexico to engage in high-octane production, and the plant, in fact, was approved by the War Department as an essential facility.

The idea of assisting Mexico to get into the field of war production is not new, a number of high Mexican officials having come to Washington last March to discuss possibilities following surveys of the Mexican oil industry last fall by PAW experts.

In informed circles it was said that reports from Mexico City regarding the project were erroneous in many respects and, so far as could be ascertained, unauthorized from official quarters. The 100-octane plant under consideration, it was said, would be of "medium" size. So far as could be learned, this is the only project currently under consideration, although it might be the initial move in the development of a program to set up other plants in Mexico and to assist that government in developing oil resources.

When negotiations between the State Department and the mission are concluded, WPB probably will be asked to grant the necessary priorities to secure materials, regarding which no difficulty is anticipated.

Officials refused to discuss the manner in which the plant will be financed, but there were indications that the money would be provided by the Lend-Lease Administration. Officials of that agency said they have not yet been approached, but expressed the opinion that if the State Department reaches an agreement with the mission, and in view of the War Department's approval, lend-lease funds probably will be used, as they were in the securing of refining equipment for the Russians.

Amend Priority Rules For Foreign Users

Amendment of priorities regulation No. 5, setting up the procedure by which foreign oil industry operations secure materials, was announced by WPB June 7, and WPB Form 743 (formerly PD-311) has been provided as the exclusive vehicle for securing priorities assistance.

The new regulation will provide complete integration with the Controlled-Materials Plan.

Form WPB-743 has been revised in several minor respects, and the definitions of the form now coincide in almost every instance with the definitions of P-98-b. In addition, the new form has eliminated two columns which were considered unnecessary. The most important alterations in the form are as follows:

1. Material may be secured on the form for any construction operation having a material cost when completed of $5000 or less. This means that on natural-gasoline production, refining, the transportation and marketing material may now be secured for small construction projects on form WPB-743 without the necessity of filing PD-200's. The form also includes, of course, all material necessary for construction operations in the production branch of the industry and all MRO material.

2. In submitting material requirements on the form the operator will break his requirements into two parts (a) MRL, (b) construction. This will enable the Petroleum Administration for War to screen more effectively the individual requirements of particular operators and to identify material requirements with particular operations. Under the Controlled-Materials Plan this type of identification of material use is absolutely necessary if full requirements for important petroleum operations are to be obtained.

American Concerns Must Report Foreign Properties

American oil companies whose properties in Europe and the Far East have been seized by the enemy will be the beneficiaries of a Treasury plan to compile information regarding the foreign properties of all Americans, which officials indicate will form the basis of a post-war accounting.

The Treasury Department has ordered all Americans with properties in any foreign country to file complete and detailed reports with the Federal Reserve Banks by August 31.

These reports, officials said, would not constitute a registry of claims against enemy countries, but will give our armed forces occupying hitherto dominated Axis territory, and the civil authorities following in their wake, "accurate information both for facilitating the occupation and for protecting American interests within the area."

Also, it was said, the information contained in the reports will be of great importance "in the formulation of policies respecting post-war financial and industrial relationships between this country and foreign nations."

The reports asked by the Treasury are to cover not only tangible property in any foreign country but also all other types of assets. Persons failing to file reports will be liable to criminal penalties.

Midwest Plants Increase Runs to Provide Farm Fuel

Additional gasoline supplies for Mid-West farmers were provided for by PAW June 2 in an authorization to refiners in District 2 west of the Mississippi to increase their gasoline yields temporarily from the 85 percent maximum ordered May 8 to 90 percent of the corresponding figure for the last half of 1941.

At the same time, quotas for daily crude runs were revised and refiners were advised by telegraph of their new allocations, which call for a total of approximately 50,000 barrels of crude daily, making the allocation for the area some 1,165,000 barrels.

The only restriction on refiners west of the Mississippi will be that their increased gasoline production shall not reduce the output of war products, result in the accumulation of a gasoline inventory so large as to threaten operations of the plant or require the use of aditional tank cars.

Refiners east of the river are included in the revised crude oil quotas but are not permitted to increase their yields of gasoline at this time since maximum production of fuel oil still is necessary in that section.

None of the additional gasoline will be available for shipment to the East Coast nor will it be made available for Midwestern motorists, PAW officials said.

Interpretations of Petroleum Administrative Order No. 11

A number of interpretations of various provisions of PAO No. 11 have been issued by PAW, among them the following:

PAW Form 3:

Q. "Is it not correct that Questions 5, 6, and 7 of PAW Form No. 3, to be used in applying for exception to PAO No. 11, are applicable only to the Applicant's own lease, on which the well which is the basis of the application is located, or at most to that lease and the adjoining leases? The compilation of such information for a larger area would be a most burdensome, if not impossible task."

A. "Questions 5, 6, and 7 of PAW Form 3 are applicable to the leases or wells in the drilling unit proposed by the applicant and to those leases or wells immediately adjoining that drilling unit."

Materials for Research Laboratories:

Q. "How does PAO No. 11 treat the use of material for carrying out, by means of an existing research laboratory, investigations into more efficient or effective methods of conducting production operations. You will recall that the old M-68 provided a specific exception therefor (paragraph (c)(2) of M-68) and that nothing is said thereon in PAO No. 11."

A. "PAO No. 11 does not restrict the use of material for the above mentioned purpose. Since the order is silent on that point, no prohibition is imposed under its terms."

Operating Supplies:

"Retels to Poe and Knowlton. Production operation as defined in PAO-11 does not include or refer to use of material for operating supplies or research investigations carried on in existing research laboratories. Therefore, PAO-11 does not prohibit acquisition or use of material for such purposes and no exception necessary. You may use ratings assigned in P-98-b to obtain operating supplies and material for maintenance and repair subject to provisions of that order."

Q. "A question has been raised as to the effect of PAO No. 11 upon the use of material as operating supplies. Again, you will recall that the old order authorized a specific exception in favor of the use of material as operating supplies and that the new order is silent thereon."

A. "The answer to this question is that PAO No. 11 does not impose any restrictions upon the use of material as operating supplies. The prohibitions of the order run to the use of material for a production operation. By definition "production operation" does not include any use of material as or for operating supplies. Therefore, since the order is silent upon this use of material, no prohibition thereon is imposed."

"We have your letter of April 19 inquiring about the use of natural gas under Petroleum Administrative Order No. 11. You are correct in your interpretation that the term "material" does not include natural gas."

Effect of PAO-11 on Exceptions to M-68:

"Retel on PAO-11. If an operator holds a letter or telegram of exception issued pursuant to the old Conservation Order M-68, you are correct in your interpretation that he may proceed with the activities covered by such letter or telegram of exception without further authorization under PAO-11. This interpretation to be distinguished from case where operator is proceeding under the 40-acre or 640-acre blanket exceptions provided for by the terms of the old M-68 order. In latter type of case the operator is governed by the provisions of paragraph (c)(3) of PAO-11. If any further question please advise."

Secondary Recovery:

"As to secondary recovery development operations which were under way on March 30, 1943, the development may be carried on, including the addition of capital equipment, until June 30, 1943, without further authorization than that which is included in Supplementary Order 6. After June 30, exceptions will be required for the installation of additional equipment. Of course, any addition of equipment or material which is permissible under the maintenance or repair provision or any other provision of Petroleum Administrative Order No. 11 may be continued after June 30, 1943."

Q. "A question has arisen with respect to the effect of PAO No. 11 and Supplementary Order No. 6 thereto upon the use of natural gas for secondary recovery operations."

A. "Neither PAO No. 11 nor Supplementary Order No. 6 thereto imposes any restriction upon any person's use of natural gas for secondary recovery operations in those instances where those secondary recovery operations were actually being conducted on March 30, 1943."

Maintenance and Repair:

Q. "Paragraph (b) (6) (iii) of this order allows a capital addition up to $500.00 of material cost to be considered as maintenance or repair. In determining the material cost of an operation, as for instance in the substitution of one size tubing string for a different size, may the value of materials recovered from the well in the operation be offset against the value of the materials substituted or added?"

A. "The answer to this question is "no." In determining the material cost of an operation the value of the material recovered from the well *may not* be offset against the value or cost of the material to be used."

Property Interest:

Q. "Does 'property interest' as defined in Paragraph B-10 of this order include non-operating interests, such as oil payments or over-riding royalties which are carved out of the lessee's leasehold estate, so that any such interests must be unitized?"

A. "I assume that this question has been raised in connection with the requirement of consolidation contained in paragraphs (d) (1) (iii) and (d) (2) (ii). If all of the properties in the drilling unit under consideration are leased, then in the light of the definition of *property interest* contained in paragraph (b) (10), the royalty interests need not be consolidated to meet the requirements of paragraphs (d) (1) (iii) and (d) (2) (ii)."

Q. "A question has been raised as to whether paragraphs (d) (1) (iii) and (d) (2) (ii), which require the consolidation of all separate property interests in a drilling unit, also require the consolidation of the royalty interests in a given drilling unit."

A. "The answer to this question is that if all the properties in the drilling unit in question are leased then, in view of the definition of *property interest* contained in paragraph (b) (10), the royalty interests need not be consolidated to meet the requirements of paragraphs (d) (1) (iii) and (d) (2) (ii)."

Gathering Lines:

"The proviso contained in paragraph (c) (4) is limiting in its nature and the limitations thereof are intended to apply *to both oil and gas gathering lines* although the manner in which the proviso as presently written may lead to the conclusion that these limitations apply only to gas gathering lines.

"Since PAO No. 11 as now written imposes certain restrictions upon the use of material for the construction or installation of oil gathering lines, the construction and installation of these lines are now removed from the restrictions of the War Production Board's Limitation Order L-41.

"Consistent with the uniform policy which has been followed with respect to the area of applicability of Limitation Order L-41 and Conservation Orders in the M-68 series, it may be assumed that those construction activities which are covered by PAO No. 11 are exempt from the restrictions and limitations of War Production Order L-41."

"In your second question you ask whether the provisions of paragraph (c) (4) (i) and (c) (4) (ii) are conjunctive or disiunctive. Before a person may avail himself of the authorization contained in paragraph (c) (4) he must meet both of the limitations set forth in paragraphs (c) (4) (i) and (c) (4) (ii). In other words, a specific exception is required if the line either duplicates the functions of an existing line or will have a material cost when completed of more than $2,500. It is suggested that if there is any question in an operator's mind as to whether or not the gathering line which he proposes to construct, install, or extend conforms to the provisions of paragraph (c) (4), that operator should file an application for an exception covering the construction, installation, or extension of that gathering line.

"The removal of the tank connections described in the second question in your letter so as to enable a transfer from one to another of two existing gathering lines would not be a use of material requiring an exception under the terms of Petroleum Administrative Order No. 11. It is assumed in giving this interpretation that the operation incident to removing the tank connections will not entail a material cost in excess of $2,500."

"Several questions have been raised with respect to the applicability of the $2,500 material cost limitation contained in paragraph (c) (4) (ii) to the construction, installation, or extension of natural gas gathering lines.

"The specific questions and answers have been as follows:

"(a) Does the limitation of paragraph (c) (4) (ii) apply to the construction, installation, or extention of *a gas gathering line to be laid to connect up a gas well which had been drilled and completed prior to the effective date of Conservation Order M-68 (December 23, 1941)?*

"The answer to this question has been that the limitation applies in such cases. If such a gas gathering line has a material cost when completed of more than $2,500, a specific exception therefor must be obtained.

"(b) Does the limitation of paragraph (c) (4) (ii) apply to the construction, installation, or extension of *a gas gathering line to be laid to connect up a gas well which had been drilled and completed or which was actually being drilled as of March 31, 1943, pursuant to the blanket 640 acre exception contained in the old M-68?*

"The answer to this question has been that the limitation also applies in such cases. If such a gas gathering line has a material cost when completed of more than $2,500, a specific exception therefor must be obtained.

"(c) Does the limitation of paragraph (c) (4) (ii) apply to the construction, installation, or extension of *a gas gathering line to be laid to connect up a gas well drilled pursuant to the blanket exceptions contained in Supplementary Orders M-68-1 and M-68-2?*

"The answer to this question has been that the limitation does not apply to such cases. Such a gas gathering line may be laid without obtaining a specific exception therefor, irrespective of material cost. The same answer is true if the gas gathering line is to be laid to connect up a gas well drilled pursuant to the blanket exceptions contained in Supplementary Order No. 1 to PAO No. 11.

"(d) Does the limitation of paragraph (c) (4) (ii) apply to the construction, installation, or extension of *a gas gathering line to be laid to connect up a gas well drilled pursuant to the terms of a specific letter or telegrams of exception issued pursuant to Conservation Order M-68 or PAO No. 11?*

"The answer to this question has been that if the specific letter or telegram of exception held by the operator *authorized the connecting up of the gas well referred to therein,* then the limitation *does not apply* to such cases. Such a gas gathering line may be laid without obtaining a specific exception therefor, irrespective of material cost."

Q. "A number of questions continue to be raised as to whether the use of material to construct oil or gas gathering lines is any longer governed by the terms of Limitation Order L-41 in view of the language of paragraph (c) (4) of PAO No. 11.

A. "The answer to these questions is that the use of materials to construct or install oil or gas gathering lines is no longer subject to the restrictions contained in Limitation Order L-41 but is instead governed by the provisions of paragraph (c) (4) of PAO No. 11."

"Paragraph (c) (4) grants a blanket authorization to use material to construct, install, or extend a crude oil gathering line which runs from the first valve on the discharge side of the lease or field shipping tank or battery where petroleum is first gauged to any transportation facility provided that such a crude oil gathering line does not duplicate in whole or in part the transportation functions of any existing crude oil gathering line or gathering lines and provided further that such a gathering line when completed does not exceed $2,500 in material cost. The blanket authorization contained in paragraph (c) (4) runs to the use of material for the purpose set forth therein irrespective of the person who will construct, install, or extend that gathering line. Accordingly, the authorization contained in paragraph (c) (4) as well as the limitations set forth in that paragraph run to transportation companies as well as owners or operators of particular leases.

"In the first question of your letter you present an example wherein a crude oil purchasing organization desires to extend its lines to a lease which is already connected to other transportation facilities. Under the circumstances outlined in this example the crude oil purchasing organization desiring to extend its lines to the lease already connected to existing lines would have to apply for and receive an exception under Petroleum Administrative Order No. 11 to lay the projected lines inasmuch as these lines appear to be a duplication of existing gathering lines."

Q. "Paragraph (c) (4) of the order authorizes the construction of crude oil gathering lines or gas transmission lines, subject to specified limitations. Does this paragraph permit such construction only by a person engaged in the production of oil or gas who, for instance, is required to deliver his production to pipe line facilities at a point away from the lease tank, or does the permission extend also to a common carrier pipe line which has no producing interests? This matter is particularly important in connection with the restrictions placed upon pipe line construction by Limitation Order L-41.

A. "The blanket authorization contained in paragraph (c) (4) runs to the *use* of material for the purpose of constructing, installing, or extending crude oil or natural gas gathering lines and extends to any person who seeks to use material for that purpose, irrespective of whether that person is an operator who drills a well or a pipe line company who has no producing interests. To the extent that any person uses material for the construction, installation, or extension of a crude oil or natural gas gathering line, such a person is bound by the terms of paragraph (c) (4) of Petroleum Administrative Order No. 11 and is no longer bound by the provisions of Limitation Order L-41."

Dual Completion of Oil Wells Under Automatic Provisions of Order or Under Some Exceptions:

"If a well is the only well on a drilling unit consisting of not less than 40 acres, that well may be dual completed without the necessity of the operator obtaining a specific exception covering that dual completion. So long as the well is the only well on a drilling unit consisting of not less than 40 acres, it is immaterial whether the well was drilled pursuant to the blanket authorizations contained in paragraph (c) (7) of Conservation Order M-68 as Amended, paragraphs (c) (6) and (c) (7) of Petroleum Administrative Order No. 11 or under a specific letter of exception issued pursuant to either Conservation Order M-68 or Petroleum Administrative Order No. 11, so far as the dual completion of that well is concerned, unless, of course, the conditions stated in any specific letter of exception preclude such dual completion."

Recompletions and Plugging Back:

Q. "Paragraph (c) (9) of this order allows the use of material to plug back and recomplete an oil well under certain conditions. Are we correct in understanding that this refers to the plugging back and recompleting of a well to and in a distinct horizon from that from which the well heretofore produced, so that there is no limitation upon the working over of a well in the same producing horizon, as, for instance, in the case of plugging back a well a few feet in order to shut off or diminish the production of salt water?

A. "Paragraph (c) (9) refers only to the plugging back and recompleting of an oil well to a horizon other than the horizon from which the well is or was producing. By the same token the phrase "deepening or plugging back of any well" contained in the definition of Maintenance or Repair in paragraph (b) (6) (iii) refers only to the deepening or plugging back of a well to a horizon other than the horizon from which the well is or was producing. Accordingly, an operator may work over a well in the same horizon in the manner indicated in your question as a maintenance or repair operation if the complete operation does not exceed $500 in material cost."

Q. "In referring to 'any oil well' does Paragraph (c) (9) refer to the nature of the well after recompletion, or before recompletion? That is, can a former gas or condensate well be plugged back and recompleted as an oil well in a new horizon, subject to the other restrictions of this paragraph?

A. "The use of the phrase 'any oil well' in paragraph (c) (9) refers to the character of the well *before recompletion.* In other words, this paragraph does not grant permission to plug back or recomplete a gas or condensate well as an oil well."

Q. "In view of the prohibition contained in paragraph (c) (9) against the recompletion of a plugged back well as a gas or condensate well, what procedure should be followed by an operator in the event a well is plugged back to, and recompleted in, a horizon when the operator does not know what type of production will be encountered, if the recompletion results in gas or condensate production?

A. "If the plugging back or recompleting operation results in obtaining a gas or condensate well, the operator should immediately cease production of such gas or condensate and file an application for an exception authorizing the production of the well as a gas or condensate well."

Q. "The working of paragraph (c) (9) appears to allow more than one well to be plugged back and recompleted on a 40 acre unit in unsectionalized areas, but to allow similar operations on only one well in a quarter section because of the requirement in the latter case of geographic identity. Is this result intended?

A. "Paragraph (c) (9) was not intended to differentiate between plugging back and recompleting operations on quarter-quarter sections (see paragraph (c) (6)) and 40 acre drilling units in non-sectionalized areas (see paragraph (c) (7)). In both these cases it was intended to permit plugging back and recompleting operations on only one well on a drilling unit where more than one well had been drilled. The phrase "any oil well" in paragraph (c) (9) means any single oil well. Were this phrase to be interpreted in any other manner the inconsistent treatment referred to in your question would result. I might add that there is now in process of preparation an amendment to Petroleum Administrative Order No. 11 which will serve to clarify any confusion that may exist on this point."

Use of Whipstock:

"Re PAO No. 11, Case—. No exception needed to set whipstock for purpose of making well bore nearer vertical.

Supplementary Order No. 5:

Q. "A question has been raised as to whether Supplementary Order No. 5 to PAW No. 11 reissues Supplementary Order M-68-5 as amended October 23, 1942.

A. "The answer to this question is that Supplementary Order No. 5 to PAO No. 11 does reissue Supplementary Order M-68-5 as amended October 23, 1942, including the requirement contained in the latter order that with respect to wells drilled thereunder the tubing and casing (other than the 'surface pipe') required to drill, complete, or provide additions to each well is on hand or is obtained without the use of priorities assistance."

Q. "I have your memorandum of April 16 asking for confirmation of the interpretation with respect to Supplementary Order No. 5 to Petroleum Administrative Order No. 11 to the effect that such Supplementary Order reissues Conservation Order M-68-5 as amended October 23, 1942.

A. "You are correct in this interpretation. Supplementary Order No. 5 to Petroleum Administrative Order No. 11 reissues Conservation Order M-68-5 as amended October 23, 1942, and hence perpetuates the requirement that with respect to wells drilled thereunder the tubing and casing (other than the 'surface pipe') required to drill, complete or provide additions to such well is on hand or is obtained without the use of priorities assistance (see paragraphs (b) (1) (v), (b) (2) (ix), (c) (1) (vi), and (c) (2) (vi)."

Make California Material Requirements Survey

Information regarding their prospective future development work has been asked of all California operators by E. E. Pyles, chairman of the District 5 production committee, on which will be based efforts to secure needed materials.

In a letter to the operators June 3, Pyles pointed out that the California industry may shortly be called upon to deliver products in excess of the present rate of production which in practically all the restricted pools of the state now is at the maximum efficient rate.

To prepare for the additional drilling which will be required, he said, it is necessary to know the number of proven locations remaining to be drilled, the probable rate at which they will be drilled, and the total amount of production to be made available, so that Washington authorities can be advised at least a year in advance of the materials which will be required.

Plenty of Rubber by Fall Of 1944, Says Jeffers

The rubber problem will grow progressively easier from now on and may be forgotten by the fall of 1944, when there will be adequate synthetic rubber available not only for military and industrial needs but also for essential civilians requirements. This is the promise of Rubber Director William M. Jeffers, who expects most synthetic-rubber plants to be in production by late October of this year and at rated capacity by the end of the year. Jeffers also believes that the synthetic-rubber industry is here to stay, that the price after the war will be cheaper than natural rubber and as durable, if not more so, for most purposes.

Five million synthetic rubber tires for civilian passenger cars will be made during this year, he declared.

Jeffers made these assertions last week as he and other government officials made an inspection tour of synthetic-rubber and aviation-gasoline plants in Louisiana and Texas. Included in the party were Undersecretary of War Robert P. Patterson, Undersecretary of War James V. Forrestal, Deputy Petroleum Administrator Ralph K. Davies, and other government men.

Big-Inch to Increase Throughput in July

Operating schedules for the big-inch pipe line for June, July and August have been set up by PAW, showing the quantities of crude and heating oil to be delivered to Longview by each company and sold to War Emergency Pipe Lines, Inc., and the quantities to be delivered to each company at the Illinois terminals and the refineries and terminals in District 1 to which the oil is to be supplied.

The schedule calls for the delivery of 8,910,000 barrels at Longview in June, 9,207,000 barrels in July and the same in August.

June deliveries are to include 5,550,000 barrels of East Coast oil, 570,000 barrels Gulf Coast, 300,000 barrels Southwest Texas and 2,490,000 barrels West Texas, while July and August deliveries, still tentative, are each to include 5,394,000 barrels East Texas, 1,240,000 barrels Southwest Texas, and 2,573,000 barrels West Texas.

The sales schedule calls for the delivery at Illinois terminals of 5,550,000 barrels of East Texas oil, 810,000 barrels Gulf Coast and Southwest Texas and 2,490,000 barrels of West Texas in June and, in July and August, 5,394,000 barrels of East Texas, 1,240,000 barrels of Southwest Texas and 2,573,000 barrels of West Texas oil.

Army to Create Special Oil Procurement Group

Petroleum requirements of the Army represent a good half of all War Department procurement and are considered so important that a special orgaiztion is to be set up in the Army Supply Force to handle them.

With theatres of military operations widening, Army estimates of oil requirements are rapidly running upward and will continue to increase as large numbers of new planes come into service. The procurement of oil entails many problems which it is now believed can be dealt with by an organization with no other responsibilities to divide its attention.

Little and Frasher Honored at San Antonio

Pleas for a crude-oil price increase and for a let-up in the government-required red tape in connection with drilling and production were made by speakers before the South Texas Oil Men's meeting at San Antonio, June 2.

Declaring that OPA Administrator Brown's proposed plan to grant subsidies to stimulate wildcatting is the most ridiculous proposal yet offered by Washington officials, O. W. Killam, Laredo, said that "as long as federal authorities tell us where to drill, how to drill and when to drill, this nation is likely to run short of petroleum, and we may find ourselves wondering how the country is going to continue to run its tanks, planes, and ships."

D. A. Little, left, President of Magnolia Petroleum Company, Dallas, and F. M. Frasher, president of Duval Petroleum Corporation, San Anoio, were honored at the sixth annual oil men's meeting at San Antonio, June 2. They were presented plaques for their long records of service in the industry.

Many expressed growing concern over the time and effort that must be spent in securing drilling materials, and a majority of the producers do not believe that Secretary Ickes' request for 4500 wildcats this year will be met. There was a note of despair expressed that the omnipresent government form is the bane of wildcatters, and thus hamstringing and delaying the drilling of some wells. It was pointed out that "red tape" departments have been established in some company offices although there is a serious shortage of manpower.

The meeting, sponsored by the South Texas Chamber of Commerce, hereafter will be a statewide affair and not confined to one district.

Two Texas oil men were honored by approximately 450 operators. They were D. A. Little, president of Magnolia Petroleum Company, Dallas, and F. M. Frasher, president of Duval Petroleum Corporation, San Antonio. Each was presented a plaque expressing appreciation for service to the industry through the years.

Texas Hearing at Austin Is Set for June 18

The Texas Railroad Commission's next statewide proration hearing has been scheduled for June 18 at Austin. The hearing on the Van proration methods has been postponed from June 2, until June 9, and a hearing to consider water problems at Talco has been postponed from June 4 to June 14.

At a hearing scheduled for June 10, the commission will take up the application of Humble Oil & Refining Company for rules to regulate water flooding operations in the Estes field, Ward County.

Magnolia Looping Section Of Line from West Texas

Magnolia Pipe Line Company will increase capacity of its West Texas 8-inch trunk line 2500 barrels to a daily outlet of 26,000 barrels through installation of a 13-mile 8-inch loop near Cisco station, Eastland County. This loop will eliminate a bottleneck arising through wide spacing of stations. Black Construction Company, Dallas, has contract, and is scheduled to complete the project by June 15.

Michigan Schools Help In Geological Survey

A $25,000 fund, $10,000 appropriated by the Michigan conservation commission, and $15,000 appropriated by three state colleges, has been set up for structure surveys, both for oil and "war minerals."

Special parties from the University of Michigan, Wayne University of Detroit, and the Michigan College of Mining and Technology, will work under the direction of Dr. R. A. Smith, state geologist, in the program.

Texas Lease Auction

An auction of oil leases on University lands has been scheduled for June 18. The tracts are located in Andrews, Crane, Reagan, Crockett, Pecos, Ward, Hudspeth and Lamar Counties.

Oils Being Supplied About as Needed Except in East Coast Shortage Area

For the industry as a whole, refinery and oil field operations and changes in stocks were about normal during the week ended May 29, although serious difficulties were being encountered in the shortage area of the East Coast.

Refinery runs of crude were 19,000 barrels a day lower than in the previous week but they were about 4½ percent higher than in the corresponding week last year, an increase about in line with the gain that has occurred in total demand for petroleum products. Crude oil production also was down somewhat, but it was more than 2 percent higher than in the like week last year. It was necessary to draw some residual fuel oil from storage again, in spite of increased production of that product, and only a small amount of distillate fuel oil went to storage in response to a further stepping up of production, this accumulation in storage having been smaller than desirable. Gasoline production was increased, but seasonal withdrawals from storage continued at a normal rate.

The production of crude oil was sufficiently high to permit continued accumulation in storage, and stocks rose over 2 million barrels.

While these overall figures for the United States reflected no important difficulties, there was a further decrease in supplies available for civilian use in the East Coast district. The American Petroleum Institute's index of stocks available for civilian use dropped to 25.7 percent of normal, compared with 26.8 percent a week earlier and 27.1 percent two weeks before. The new figure was only a fraction above the low point of 25.5 percent reached on May 8, 1943.

The shortage in the East currently is accentuated by the reduced shipments through the recently flooded areas of the Middle West, but government officials have pointed out that the flood conditions are not the basic troubles. They only have increased difficulties involved in meeting the heavy military requirements, in shipping oils from the Atlantic Seaboard to Africa and Europe.

The concern of PAW over inability to continue supplying civilian needs at former rates finally has brought action from other government agencies toward reducing civilian use to bare, essential needs. OPA has reinstated the ban on pleasure driving and called fo rconfinement of gasoline consumption to strictly essential purposes. The Office of Defense Transportation meanwhile has restricted consumption of gasoline of trucks, busses and taxis. ODT Director Eastman's order required operators of taxicabs and busses in the shortage area to begin reducing mileage at once 20 percent, and notice was given that additional curtailment would have to be made.

Efforts are being continued meanwhile to bring about additional conversions of industrial and commercial fuel oil burning equipment to the use of coal and other fuels. PAW stated that conversions so far have brought about the

Crude Oil Production in the United States

(Estimates compiled by The Oil Weekly. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED May 29	June 5
Arkansas	72,550	72,800
California	765,450	764,252
Long Beach	33,900	32,370
Midway-Sunset	56,550	55,429
Kettleman Hills	43,400	39,098
Wilmington	96,100	93,420
Rest of State	535,500	543,935
Colorado	6,500	6,600
Illinois	210,500	213,300
Salem	31,100	31,500
Louden	40,800	36,700
Other New Pools	127,600	134,100
Old Pools	11,000	11,000
Indiana	14,150	13,750
Kansas	299,450	271,050
Kentucky	22,450	21,850
Louisiana	348,400	333,700
North Louisiana	87,200	87,000
South Louisiana	261,200	246,700
Michigan	57,800	61,650
Mississippi	54,000	54,300
Missouri	95	95
Montana	21,450	24,950
Nebraska	2,000	2,150
New Mexico	97,400	97,000
New York	14,050	15,000
Ohio	8,850	9,150
Oklahoma	323,250	328,750
Oklahoma City	56,700	58,250
Seminole Area	74,200	70,800
Rest of State	192,350	199,700
Pennsylvania	46,100	46,550
Tennessee	35	30
Texas	1,503,850	1,500,300
Upper Gulf Coast	375,500	378,950
East Texas Field	339,250	336,300
Rest of Eastern Texas	124,650	123,900
Lower Gulf Coast	138,950	134,900
Southwest Texas	58,550	58,650
South Central Texas	17,050	16,550
West Texas	226,850	228,500
North Texas	131,850	132,000
Panhandle	91,200	90,550
Utah	10	10
West Virginia	11,000	9,100
Wyoming	92,850	92,200
Total United States	3,972,190	3,938,537

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gas Oil & Distillate Stocks Barrels	Gas Oil & Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1939	3,910	8- 5	3,650	10-21	278,607	5-26	87,769	4-322	39,562	10-28	116,237	8-26
1940	3,890	3-16	3,690	6-22	265,865	8-31	102,817	4-20	49,051	10-19	109,135	9-14
1941	4,337	11-22	[1]4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	[1]4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	49,861	11-14	95,857	1- 3
1943	4,020	5- 8	3,849	5- 1	243,660	5-22	94,159	3-20	42,913	1- 2	72,881	1- 2
Lows:												
1939	[2]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1940	3,335	11-30	3,370	1- 6	237,339	1-27	79,847	11- 9	23,551	4- 6	102,344	2-10
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,381	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5 23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	82,420	1- 2	30,732	4- 3	66,991	5- 1

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gas Oil & Distillate Production Weekly	Gas Oil & Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1942:									
January 3	4,038	3,961	244,440	13,797	92,987	3,855	49,357	6,918	95,857
January 31	3,871	3,848	250,740	13,292	97,810	3,817	40,674	6,640	91,189
February 28	4,016	3,675	259,373	12,131	105,635	3,799	34,547	6,813	88,285
March 28	3,820	3,667	263,208	11,663	105,624	3,661	31,756	6,344	83,045
April 25	3,581	3,506	257,073	10,535	102,897	3,267	29,240	6,869	81,107
May 30	3,877	3,522	255,023	10,478	95,355	.....	31,384	.....	79,628
June 27	3,719	3,581	253,364	10,713	88,396	.....	32,851	.....	77,304
July 25	3,691	3,658	249,262	10,864	82,281	.....	35,966	.....	77,816
August 29	3,964	3,697	249,007	11,300	80,831	.....	42,060	.....	78,034
September 26	3,909	3,802	242,785	10,954	80,550	.....	45,945	.....	78,943
October 31	3,901	3,731	239,266	11,153	79,159	.....	48,131	.....	79,166
November 28	3,878	3,736	234,850	11,269	78,854	.....	49,739	.....	77,796
1943:									
January 2	3,871	3,734	233,938	10,957	82,420	4,285	42,913	7,683	72,881
January 30	3,826	3,698	233,863	10,339	88,830	3,888	37,057	7,452	70,763
February 27	3,873	3,709	235,217	10,566	93,157	4,230	32,939	7,839	70,140
March 27	3,896	3,742	239,126	10,231	94,079	3,541	30,980	8,018	67,938
April 24	3,913	3,737	242,035	10,583	91,001	3,954	31,142	8,168	67,455
May 1	3,919	3,849	242,916	10,977	90,029	3,629	31,202	8,314	66,991
May 8	4,020	3,755	240,775	10,581	88,166	3,795	31,663	7,853	67,577
May 15	3,984	3,768	241,457	10,506	86,950	3,797	31,891	7,760	67,311
May 22	4,006	3,698	243,660	10,300	85,331	3,682	32,193	7,442	67,717
May 29, 1943	**3,970**	**3,679**	.....	**10,656**	**83,937**	**3,798**	**32,274**	**7,672**	**67 682**
May 30, 1942	3,877	3,521	[4]253,423	10,578	95,283	3,034	30,391	6,993	79,690
Change:									
In week	—36	—19	+2,203	+356	—1,394	+116	+81	+230	—35
In year	+93	+158	—9,763	+78	—11,346	+764	+1,883	+679	—12,008
In year	+2.3%	+4.4%	—3.8%	—0.7%	—11.9%	+25.1%	+6.1%	+9.7%	—15.0%

[1] All time peak. [2] Lowest since April, 1922. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent States. [4] Stocks, May 23, 1942.

saving of about 125,000 barrels per day of fuel oil.

Another measure that has been taken to relieve the East Coast shortage was the issuance of an order by PAW calling for rearrangement of the entire gasoline supply and distribution system in the states of Texas, Louisiana, New Mexico, Arkansas, Mississippi and Alabama, in order to achieve maximum efficiency in the use of all available transportation facilities. The purpose of the order is to make tank cars and other transportation available for use in the East Coast shortage area, by releasing such transportation from the mentioned states. This is to be accomplished by supplying the local requirements of each section within those states from the nearest possible sources. Within these states are many oil fields and refineries, and local requirements in many cases can be met from the adjacent wells and refineries. This latest move by the OPA is a further step in the war time revolution of the nation's oil transportation system, in which all possible savings in transportation facilities and efficiency of shipping have been sought.

Crude runs to stills averaged 3,679,000 barrels per day in the week ended May 29, a decrease of 19,000 barrels from the previous week's rate, but 158,000 barrels (4.4 percent) above the runs of 3,521,000 barrels daily in the week ended May 30 last year. The new rate of runs was more than 150,000 barrels under the high of 3,849,000 daily for this year, set in the week ended May 1. The nation's plants were being operated at 76.0 percent of capacity. Those in the East Coast and Southwestern districts combined were using 71.0 percent of capacity, in the Appalachian district 90 percent, in Illinois-Indiana 85 percent, in Oklahoma-Kansas 76 percent, in Rocky Mountain 58 percent, and in California 84 percent.

Residual fuel oil production was increased 230,000 barrels over the previous week's output and totalled 7,672,000 barrels. This amount was 10 percent more than the production of 6,993,000 barrels during the week ended May 30, 1942. Despite the larger plant output, 35,000 barrels of residual fuel oil came from storage in meeting requirements in the week of May 29, and the 67,682,000 barrels left on hand was 12,008,000 barrels (15%) less than the 79,690,000 barrels in storage May 30, 1942. Nearly all districts produced more of the heavy fuel during the final week of May than in the previous week, and the reduction in stocks was accounted for by a withdrawal of nearly one-half million barrels in California and an 81,000 barrel draft in the Middle West, which outweighed a half million barrel accumulation in the East Coast-Southwest districts.

Gas-Oil Distillate

Production of gas oil and distillate fuel continued at an exceptionally high rate. The output of 3,798,000 barrels in the week ended May 29 was 750,000 barrels (or 25 percent) more than the production of 3,034,000 barrels in the corresponding week last year. However, only 81,000 barrels went to storage, and the stocks of 32,274,000 barrels at the end of the week were only two million barrels, or 6 percent, above the stocks of 30,391,000 on May 30, 1942.

Production of gasoline was about 50,000 barrels a day higher in the week ended May 29 than in the previous week, and about one percent greater than in the corresponding week last year, and stocks were reduced 1,394,000 barrels. This was about a normal withdrawal for this season of the year. The inventory of 83,937,000 barrels held on May 29 was 11,346,000 barrels, or 12 percent, less than the 95,283,000 barrels in storage May 30, 1942. Production was increased in all districts except Oklahoma-Kansas and California, but there were withdrawals from storage rather than additions in all districts except the Appalachians. The reduction in stocks for the East Coast and Southwestern districts was approximately one million barrels.

In averaging 3,970,000 barrels per day, United States crude oil production was 36,000 barrels less than in the previous week, but 93,000 barrels per day, or 2 percent, higher than in the week of May 30, 1942.

Stocks of crude oil were increased in the week ended May 22 from 241,457,000 barrels to 243,660,000, an increase of 2,203,000. The stocks then were about ten million barrels, or 4 percent, less than one year previously.

Shortage on East Coast Reflected in Mid-West

The past week brought no material alleviation of the tight market conditions that have prevailed in recent weeks, and the East Coast district remains the area of the most problems in supplying demands, although some easing of the requirements for light fuel oil and kerosene with warmer weather has afforded some relief.

While the declines in demand for heating oil and kerosene have freed some transportation capacity for handling gasoline, the stocks of the latter product still are critically low on the Atlantic seaboard, and there is very little prospect of any real improvement in the situation. Orders of the Office of Price Administration and of the Office of Defense Transportation, respectively banning pleasure driving and reducing gasoline consumption by commercial vehicles, are expected to bring consumption down better in line with supplies available for civilian use, while marketing-transportation readjustments in the Southwest are counted upon to free some additional transportation for Eastern service. But in the meantime, the flood conditions in the Middle West continue temporarily retarding oil movement to the East, and there is no let-up in the heavy demand for oils on the Atlantic Coast for military purposes. From every viewpoint, therefore, the East Coast shortage remains a serious problem and one which gives no promise of early relief.

The Middle West has been feeling the Eastern shortage increasingly, as it has been called upon to help release supplies for use in the East. Consequently, there has been some advancing of prices on the part of Mid-West marketers. There are shortages among both refiners and marketers, especially on third grade gasoline.

Markets remain very tight also in the upper Mid-Continent region, many refiners being unable to fill orders, for lack of materials.

Gulf Coast refiners are encountering heavy demand for gasoline, while there is also an increasing tightness of kerosene and fuel oils.

Big-Inch Line Operating On Restricted Schedule

Crude oil moving through Emergency Pipe Line's 24-inch line from Longview to Norris City, on June 3 was being restricted to 180,000 barrels daily, because of shortage of cars to move the oil from the Illinois terminal east. The line was operating on a schedule of 270,000 barrels daily previous to May 17 when the pipe was broken by flood of the Arkansas river. Railroads have regained the high efficiency of the period before the flood disruption. Floods in the Ohio valley caused material delays and the situation was further complicated by consigning cars from the Illinois-East Coast service to the longer rail haul from the Southwest when it was believed that the line break would take considerable time to repair.

Preliminary work is under way to restore the Arkansas crossing immediately after the passing of the flood stage. The big-inch line is currently utilizing only one pumping unit at each station, while one station is idle due to flood waters.

Movement of Permian Basin sour crude through the line has been deferred until the river crossing is replaced, according to present plans. The temporary 20-inch river crossing will not permit the use of "plugs" intended to precede and follow the sour oil batches. Approximately 480,000 barrels of Permian Basin oil has been accumulated at Longview and further deliveries by the four feeder lines will be held in abeyance for lack of storage until stocks on hand are disposed of.

Michigan Pipe Lines Being Constructed

American Michigan Pipe Line Company, affiliate of Michigan Consolidated Gas Company, has started construction of 15 miles of 12-inch gas line from the Six Lakes field station to the Austin station. The new line will enable the company to draw from the Austin gas reservoir, which has been used for storage for the past year. Gas from Lake George and Reed City fields is stored at Austin to aid in meeting peak load requirements. Previously the company has depended on reserves in the Six Lakes field for the Grand Rapids market.

Simrall Corporation has started construction of 8 miles of 6-inch oil line from the Fork field, Mecosta County, north to the Evart station, which will enable pumping into Sohio Pipe Line Company's main system into Mt. Pleasant and Toledo.

Seek Permit for Line To Serve Pilot Butte

Toronto Pipe Line Company, affiliate of the British-American Oil Producing Company, has made application to lay a 30-mile 6-inch pipe line from the Pilot Butte field to Arapahoe, Wyoming, on the Burlington railroad. Meanwhile, the company has started operating its 2½ mile 4-inch pipe line from the recently discovered Steamboat Butte field to loading racks at Pilot Butte. The projected line would serve both Pilot and Steamboat Butte fields, and would supplant the several transports now in service trucking oil from the loading racks on the north side of Pilot to the Burlington railroad.

Gravity-Scale Crude Oil Prices in Mid-Continent Fields

Posted in most instances between May 19 and May 21, 1941

GRAVITY	Oklahoma-Kansas		North Louisiana-Arkansas Mississippi					Inland Texas and New Mexico			South Texas		Texas Gulf Coast			Louisiana Gulf Coast							
	Stanolind, Gulf, Texas, Skelly, Barnsdall, Tidewater, Sinclair, Phillips	Carter, Magnolia, Shell	[1]Rodessa, etc.	[2]Champagnolle, etc. Tinsley, Miss.	Bankie, Eola, Olla, S. Olla, Little Crk. (by Standard)	Lisbon, La (by Gulf)	[3]Atlanta, Buckner, etc., Ark.	North and West Central Texas	[4]Eastern Texas	West Texas, [17]Panhandle, New Mexico	[5]Refugio Type	[6]Mirando Type	[7]Gulf Coast	[8]Anahuac Type	[9]Dickinson Type	[10]Gulf Coast	[11]Standard of La.	[12]Texas Co.	[13]Texas Co.	[14]Magnolia Pet. Co.	[15]Shell Oil Co.	Jennings (by Gulf)	[16]Rocky Mt. Area (Salt Creek, etc.
17-17.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	$0.94	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.96	....	....	....
19-19.9	....	....	....	....	....	....	....	....	$0.80	$0.70	$1.08	$1.03	$1.06	$0.98	$0.93	$1.06	....	....	....	.98	$0.99	....	....
20-20.9	$0.85	$0.75	....	....	....	....	$0.68	$0.85	.82	.72	1.10	1.05	1.08	1.00	95	1.08	$0.90	....	....	1.00	1.01	....	....
21-21.9	.87	.78	....	....	....	....	.70	.87	.84	.74	1.12	1.07	1.10	1.02	97	1.10	.92	....	....	1.02	1.03	....	....
22-22.9	.89	.81	....	....	....	....	.72	.89	.86	.76	1.14	1.09	1.12	1.04	99	1.12	.94	....	....	1.05	1.05	....	....
23-23.9	.91	.84	....	....	....	....	.74	.91	.88	.78	1.16	1.11	1.14	1.06	1.01	1.14	.96	....	....	1.08	1.07	....	....
24-24.9	.93	.87	$0.88	$0.86	$1.03	....	.76	.93	.90	.80	1.18	1.13	1.16	1.08	1.03	1.16	.98	....	....	1.11	1.09	....	....
25-25.9	.95	.90	.90	.88	1.05	....	78	.95	{.92 .97	.82	1.20	1.15	1.18	1.10	1.05	1.18	1.00	....	....	1.14	1.11	....	....
26-26.9	.97	.93	.92	.90	1.07	....	.80	.97	.99	.94	1.22	1.17	1.20	1.12	1.07	1.20	1.02	....	....	1.17	1.13	....	....
27-27.9	.99	.96	.94	.92	1.09	$0.81	.82	.99	1.01	.86	1.24	1.19	1.22	1.14	1.09	1.22	1.04	....	....	1.19	1.15	....	....
28-28.9	1.01	.99	.96	.94	1.11	83	.84	1.01	1.03	.88	1.26	1.21	1.24	1.16	1.11	1.24	1.06	$1.06	....	1.21	1.17	....	$0.96
29-29.9	1.03	1.02	.98	.96	1.13	.85	.86	1.03	1.05	.90	1.28	1.23	1.26	1.18	1.13	1.26	1.08	1.08	....	1.23	1.19	....	.98
30-30.9	1.05	1.05	1.00	.98	1.15	.87	.88	1.05	1.07	.92	1.30	1.25	1.28	1.20	1.15	1.28	1.10	1.10	$1.05	1.25	1.21	....	1.00
31-31.9	1.07	1.07	1.02	1.00	1.17	.89	.90	1.07	1.09	.94	1.32	1.27	1.30	1.22	1.17	1.30	1.12	1.12	1.07	1.27	1.23	$1.07	1.02
32-32.9	1.09	1.09	1.04	1.02	1.19	.91	.92	1.09	1.11	.96	1.34	1.29	1.32	1.24	1.19	1.32	1.14	1.14	1.09	1.29	1.25	1.09	1.04
33-33.9	1.11	1.11	1.06	1.04	1.21	.93	.94	1.11	1.13	.98	1.36	1.31	1.34	1.26	1.21	1.34	1.16	1.16	1.11	1.31	1.27	1.11	1.06
34-34.9	1.13	1.13	1.08	1.06	1.23	.95	.96	1.13	1.15	1.00	1.38	1.33	1.36	1.28	1.23	1.36	1.18	1.18	1.13	1.33	1.29	1.13	1.08
35-35.9	1.15	1.15	1.10	1.08	1.25	.97	.98	1.15	1.17	1.02	1.40	1.35	1.38	1.30	1.25	1.38	1.20	1.20	1.15	....	....	1.15	1.10
36-36.9	1.17	1.17	1.12	1.10	1.27	....	1.00	1.17	1.19	1.04	1.42	1.37	1.40	1.32	1.27	1.40	1.22	1.22	1.17	....	....	1.17	1.12
37-37.9	1.19	1.19	1.14	1.12	1.29	....	1.02	1.19	1.21	1.06	1.44	1.39	1.42	1.34	1.29	1.42	1.24	....	1.19	....	....	1.19	1.14
38-38.9	1.21	1.21	1.16	1.14	1.31	....	1.04	1.21	1.23	1.08	1.46	1.41	1.44	1.36	1.31	1.44	1.26	....	1.21	....	....	1.21	1.16
39-39.9	1.23	1.23	1.18	1.16	1.33	....	1.06	1.23	1.25	1.10	1.48	1.43	1.46	1.38	1.33	1.46	1.28	....	1.23	....	....	1.23	1.18
40 & Up	1.25	1.25	1.20	1.18	1.35	....	1.08	1.25	1.27	1.12	1.50	1.45	1.48	1.40	1.35	1.48	1.30	....	1.25	....	....	1.25	1.20

[1] Gulf schedule for Caddo, Homer, Haynesville, Bull Bayou, Crichton, De Soto, El Dorado and Rodessa, Texas. Standard of La. schedule for Cotton Valley, Rodessa, Shreveport (Cross Lake), and Caddo. Magnolia schedule for Haynesville, Cotton Valley, Rodessa, and Miller Co., Ark. Texas Co. schedule for "North Louisiana."

[2] Schedule of Standard of La. for Catahoula Lake, Elm Ridge, Hemphill, De Soto, Sabine, Fouke, Homer, Miller Co., Sugar Creek. Schedule of Root Petroleum Co. for Nick Springs, Urbana light, Schuler sweet, Rainbow, South Field (El Dorado), and Champagnolle.

[3] Schedule of Standard of La. for Atlanta, Buckner, Magnolia, Patton, Schuler: Jones sand, Village. Schedule of Root Petroleum Co. for Schuler: Reynolds lime, and Schuler: Jones sand.

[4] Humble schedule for Anderson, Cherokee, Limestone, and Navarro counties and Navarro Crossing field, except that prices from 80 to 92 cents represent postings only for Hawkins field, Wood County. For Talco crude, Magnolia's prices are same as Humble's for Hawkins. Rodessa, Texas, prices are same as in Rodessa, La.-Ark.

[5] Schedule for Refugio, E. White Point, Greta, Melon Creek, Midway, Minnie Bock, O'Connor-McFaddin, Plymouth, Saxet, Taft, and Tom O'Connor.

[6] Schedule for Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (N. and S.), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, and Tesoro.

[7] Humble schedule for Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa new, Raccoon Bend, South Thompsons, Sugarland, Thompsons, Webster, Texas Co. schedule for Arkola, Ganado, Hamman, Hillje, Humble, Kubela, Magnet, Manvel, Markham, Mauritz, Old Ocean, Pickett Ridge, Port Neches, Sour Lake, West Columbia, Withers; except that schedule provides $1.36 top, 34 gravity. Pan American Prod. Co. schedule for Hastings and South Houston. Gulf schedule for Spindle Top, Sour Lake, Lovells Lake, West Beaumont, Goose Creek, South Liberty, Big Creek, Blue Ridge, Fannett, Moore, Barbers Hill, Hankamer, Thompsons, Lochridge, Dyersdale, and Hull (old) crudes. Sun schedule for Barbers Hill, Batson old, Cotton Lake, Esperson below 35 gravity, Goose Creek, Greens Lake, Hull below 25, Humble below 35, Nome, North Dayton below 25, Orange, Saratoga, Sour Lake, South Liberty.

[8] Humble schedule for Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull old and new, Pierce Junction, Red Fish Reef, Turtle Bay fields. Sun schedule for Anahuac, Caplen, and Turtle Bay. Gulf schedule for Anahuac, Hull new, Pierce Junction, Orange and Thompsons deep.

[9] Humble schedule for Dickinson, Gillock, Hardin, League City, and Rowan fields. Pan American Prod. Co. schedule for Gillock crude.

[10] Sun Oil Co. schedule for Bayou Blue, Chacahoula, Fausse Pointe, Hackberry (E. and W.), and Vinton. Texas Co. schedule for Bay St. Elaine, Caillou Island, Iberia, Lake Barre, Lake Pelto, Leesville and Port Barre for crude ranging in gravity up to 27-27.9; for lighter oils in those fields see Footnote 12. Gulf schedule for Edgerly, Starks, Vinton, E. Hackberry, Cameron Meadows, Leesville. Deduct 10 cents for Gulf's prices for Timbalier Bay, Grand Bay, Quarantine Bay, and West Bay. Deduct 2 cents for Standard of La. prices for University (Baton Rouge) crude of 30 to 35.9 gravity.

[11] Standard of La. schedule for Bayou Mallet, Bayou Sale, Choctaw, Darrow, Jeanerette, Lirette, N. Crowley, S. Crowley, Port Barre, Potash, Roanoke, St. Martinville. Deduct 10 cents for Anse La Butte.

[12] Texas Co. schedule for Bateman Lake, Dog Lake, Fausse Point, Horseshoe Bayou, Jefferson Island, Plumb Bob, Vermilion Bay, West Cote Blanche, and Delta Duck Club. Add 8 cents to these prices for Texas Co. postings for 28 or higher gravity at Bay St. Elaine, Caillou Island, Iberia, Lake Pelto, Leesville, Port Barre, and Lake Barre.

[13] Texas Co. schedule for Delta Farms, Golden Meadows, Lake Salvador. Also Standard of La. for Golden Meadows.

[14] Magnolia schedule for Lockport, Cameron Meadows, West Gueydan.

[15] Shell Oil Co. schedule at Iowa, Black Bayou, White Castle. For Shell's prices at Roanoke and Chalkley fields deduct 5 cents. For Shell's prices at Gibson, South Houma, Hester, and West Lake Verret fields deduct 10 cents.

[16] Sinclair-Wyoming Oil Co. prices at Salt Creek, Lost Soldier, Iron Creek, effective May 20, 1941. Deduct 10 cents for East Mahoney and deduct 20 cents for Mahoney and Wertz.

[17] Add 3 cents for Panhandle prices.

MID-CONTINENT FLAT PRICES

FIELD—	Flat Price	Date Posted
Arkansas:		
Big Crk., Columbia, McKamie, Macedonia, Dorcheat, sour dist.	$1.25	2- 3-43
Dorcheat, Macedonia dist'l.	1.30	11-16-42
Smackover, Heavy	.83	5-22-41
Texarkana sweet distillate	1.40	-42
Louisiana, North:		
Cotton Valley Distillate	1.40	9- 1-41
Cotton Valley (Holloway sn.)	1.25	5-22-41
Lisbon Distillate	1.20	5-22-41
Urania	1.15	5-22-42
Louisiana, South:		
Erath	1.21	5-21-41
Garden Island	1.36	5-21-41
Happytown	1.15	5-20-41
Lafitte, Paradis	1.19	5-21-41
Lake Arthur & Tepetate	1.18	5-21-41
Lake Mongoulois	1.36	5-21-41
Ville Platte	1.30	5-22-43
Nebraska:		
Falls City, in field	.90	8- 1-41
Falls City, in tank cars	95	8- 1-41
Shubert, in tank cars	.97	8- 1-41
Texas:		
Alice, Benavides (No. Sweden), Ben Bolt, Clark-Muil, Sun and Tom Graham	1.35	5-21-41
Cayuga	.90	5-21-41
Chapel Hill 50° and up	1.25	3-19-42
Chapel Hill below 50°	1.18	1-20-42
Clay Creek	1.00	5-22-41
Cleveland	1.26	5-21-41
Conroe	1.43	5-21-41
Esperson 35° & up; S. Esperson (Sun Oil)	1.30	5-22-41
East Texas, Flag Lake	1.25	5-20-41
Flour Bluff, East Flour Bluff, and La Rosa	1.33	5-21-41
Hockley-Cochran Counties	.87	5-21-41
Livingston, Cleveland	1.25	5-20-41
Long Lake	1.23	5-21-41
Luling	1.05	5-21-41
Lytton Springs	1.17	5-21-41
North Rincon	1.45	2- 3-43
Salt Flat, North Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.14	5-21-41
Satsuma, Tomball	1.40	5-21-41
Sun Oil Co. at Batson (new), Fig Ridge, Hardin, Hull 25 and up, Humble 35 and up, LaBelle, N. Dayton 25 and up, Oyster Bayou, Seabreeze, S. China, W. Orange and Willow Slough	1.25	5-22-41
South Cotton Lake	1.35	5-22-41
Sun, N. Sun, N. Rincon, Garcia	1.35	5-22-41
Van	1.08	5-21-41
Yates (Deep)	.95	5-20-41
Yates (Shallow)	.82	5-20-41
Yturria (Sun in S. Texas)	....	....

MICHIGAN PRICES

Central (Basin):		
Porter, Greendale, Crystal, Wise, Midland, Vernon, Saginaw	$1.44	5-27-41
Buckeye, Edenville, Bentley, Beaverton, Monitor, Kawkawlin	1.42	5-27-41
Freeman, Lincoln, Sherman Redding, Temple, Winterfield, Trenton-Monroe Co., Fork Tws.-Mecosta Co.	1.39	5-27-41
Hamilton-Grout	1.29	5-27-41
Adams	1.27	6- 1-41
Arenac, Clayton, Ogemaw, W. Branch	1.24	5-27-41
Southwest (Shallow):		
Traverse, crude in Allegan, Kent, Ottawa, Van Buren Counties	1.45	6- 2-41
Clare	1.11	5-27-41

MIDDLE WEST PRICES

FIELD—	Flat Price	Date Posted
Lima, Ohio-Ind.	$1.50†	10-28-42
Illinois Basin (Sohio Corp.)	1.37	5-19-41
Lake Centralia-Salem, Illinois	1.37	5-19-41
Eastern Ill.-Western Ind.	1.22	5-21-41
Plymouth, Illinois	1.05	4-28-43
Western Kentucky	1.32	5-21-41
Birk City, Western Kentucky	1.32	5-21-41
Kentucky River, Eastern Ky.	1.43	6-19-41
Big Sandy River, Eastern Ky.	1.38	6-19-41
Cleveland, Lodi, Chatham, Ohio	1.30	9- 1-41

ROCKY MOUNTAIN STATES PRICES

Colorado:		
Canon City and Florence	$1.05	5-21-41
Iles	1.07	5-20-41
Montana:		
Cat Creek	1.15	4- 1-41
Cut Bank (6 Buyers)*	1.05-1.20	3-30-42
Dry Creek	1.02	5-20-41
Sunburst	1.00	5-20-41
New Mexico:		
Artesia	.94	5-21-41
Hogback	1.00	10-11-38
Wyoming:		
Big Muddy	1.08	5-30-41
Byron	.70	3- 4-43
Elk Basin	1.00	5-21-41
Elk Basin, Black	.90	4-28-43
Frannie, Light	.85	2-26-43
Frannie, Heavy	.62	2-26-43
Garland	.60	3- 4-43
Grass Creek, Light	1.00	5- 1-41
Grass Creek, Heavy	.65	4- 1-43
Hamilton Dome	.60	2-26-43
Lance Creek (Ohio Oil Co.)	1.12	7- 1-41
Mill Creek	.72	10-11-38
Oregon Basin	.65	3- 4-43
Osage	1.30	10-11-38
Poison Spider	.65	2-26-43
Rock River	1.15	5-21-41
Salt Creek, Tensleep Heavy	0.8285	2-27-43

*About 25% of Cut Bank crude brings $1.20 per barrel; 65% less than $1.20 and minimum $1.10; and 10% less than $1.10.

†$1.50-price applies to about ¾ of field's production; $1.60 to ¼ of it.

Wholesale Prices of Refined Products in Principal Markets

REFINED GASOLINE	Current Range (Cents a gal.)		Changes from Month Ago	
Oklahoma Refineries:				
60 Octane and Under	5⅛	5¼	...	...
63-66 Octane	5⅛	5⅜	...	...
72-74 Octane	5⅞	6	...	...
78 Octane, Ethyl	6¾	6⅞	...	...
Mid-Western Tank Car:				
60 Octane and Under	5⅛	5¼	...	...
63-66 Octane	5⅛	5⅜	...	...
72-74 Octane	5⅞	6	...	...
78 Octane, Ethyl	6¾	7⅛	...	...
New York Harbor:				
68-70 Octane	9¼	9¼	...	...
72-74 Octane	9¼	9⅜	...	...
†Gulf Coast:				
60 Octane unleaded	5	5	...	...
65 Octane unleaded	5¼	5¼	...	...
68 Octane unleaded	5½	5⅝	...	...
70 Octane unleaded	5⅝	5¾	...	...
63-65 Octane leaded	5⅜	5⅜	...	...
72-74 Octane leaded	5¾	5¾	...	...
Min. 80 Octane, '39 Research	6¾	6⅞	+¾	...
NATURAL GASOLINE				
Grade 26-70:				
F.O.B. Group 3	3⅞	3⅞	...	...
F.O.B. Br'kenr'ge, Tex.	3½	3½	...	...
KEROSINE				
Oklahoma Refineries:				
41-43 water white	4⅜	4½	...	...
42-44 water white	4½	4½	...	...
Mid-Western Tank Car:				
41-43 water white	4⅜	4⅜	...	...
42-44 water white	4½	4½	...	...
New York Harbor	7⅛	7⅛	...	...
†Gulf Coast:				
41-43 water white	4⅛	4⅛	...	...
RANGE OIL				
At Oklahoma Refineries	4	4⅛	...	...
In Mid-Western Market Group 3, basis	4	4	...	...
LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 prime white	3⅞	3⅞	...	...
No. 1 straw	3⅞	4	...	...
No. 2 straw	3⅝	3⅝	...	...
No. 3	3½	3½	...	...
Mid-Western Tank Car:				
No. 1 prime white	3⅞	3⅞	...	...
No. 2 straw	3⅝	3⅝	...	...
No. 3	3½	3½	...	...
New York Harbor:				
No. 1	7⅛	7⅛	...	...
No. 2	6¾	6¾	...	...
No. 3	6¾	6¾	...	...
†Gulf Coast:				
No. 2	3¾	3¾	...	...
DIESEL & GAS OILS (Cents per gallon, cargoes, according to Diesel index number)				
Gulf Coast:				
Below 43 di.	3¾	3¾	...	...
43-47 di.	3⅞	4	...	...
48-52 di.	3⅞	4	...	...
53-57 di.	4	4⅛	...	...
58 and above	4¼	4¼	...	...

HEAVY FUELS	Current Range (Per Bbl.)		Changes from Month Ago	
Oklahoma Refineries:				
No. 6	...	...	...	...
14-16 Gravity	$0.97	$0.97	...	...
Mid-Western Tank Car:				
No. 5	.85	.85	...	...
No. 6	.80	.80	...	...
New York Harbor:				
No. 5	1.95	2.01	...	...
No. 6	1.65	2.07	...	...
BUNKER C FUEL OIL (Per barrel, ships' bunkers)				
†Gulf Coast	$0.85	$1.27	...	...
New York Harbor	1.65	2.07	...	...
DIESEL OIL, HEAVY (Per barrel, ships' bunkers)				
†Gulf Coast 28 grav.	$1.65	$1.65	...	...
New York Harbor	2.78	2.78	...	...
LUBRICATING OIL (Cents a gallon)				
Oklahoma Refineries:				
Bright stock (viscosity at 210°):				
200 vis. D, 10-25 pour point	27	27	...	...
150-160 vis. D:				
0-10 pour point	23	23	...	...
10-25 pour point	22½	23	...	...
25-40 pour point	23	23	...	...
150-160 vis. E	22	22	...	...
120 vis. D, 0-10 pour point	22	22	...	...
Cylinder Stocks:				
600 s.r. dark green	8½	8½	...	...
600 s.r. olive green	10	11	...	...
631 s.r.	18½	18½	...	...
Neutral Oils (viscosity at 100°, 0-10 pour point):				
Pale Oils:				
60- 85 vis. No. 2 color 8	8	8	...	...
86-110 vis. No. 2 color 8½	8½	8½	...	...
150 vis. No. 3 color	14½	14½	...	...
180 vis. No. 3 color	15	15	...	...
200 vis. No. 3 color	15	15	...	...
250 vis. No. 3 color	16	16½	...	...
280 vis. No. 3 color	17	17	...	...
300 vis. No. 3 color	18	18	...	...
Red Oils:				
180 vis. No. 5 color	15	15	...	...
200 vis. No. 5 color	15	15	...	...
280 vis. No. 5 color	...	...	...	...
300 vis. No. 5 color	17	17½	...	...
Western Pennsylvania: Cylinder Stocks:				
600 s.r. filtrable	15	15	...	...
650 s.r.	15½	15½	...	...
600 flash	16	16	...	...
630 flash	17	17	...	...

LUBRICATING OIL (Cents a gal.)			Changes from Month Ago	
Bright Stock (No. 8 Color, 145-155 vis. at 210°, 540-550 fl.):				
10 pour test	30½	30½	...	...
15 pour test	29½	29½	...	...
25 pour test	25	25	...	...
Viscous Neutrals (No. 3 Color, vis. at 70°):				
200 vis. (180 at 100), 420-425 fl.:				
Zero pour test	31½	31½	...	...
10 pour test	30½	30½	...	...
15 pour test	29½	29½	...	...
25 pour test	23	26	...	...
150 vis. (143 at 100), 400-405 fl.:				
Zero pour test	29½	29½	...	...
10 pour test	28½	28½	...	...
15 pour test	27½	27½	...	...
25 pour test	21	24	...	...

EASTERN STATES CRUDE OIL PRICES

FIELD—	Flat Price	Date Posted
Bradford-Allegany	$3.00	3-26-42
Sw. Pa. Pipe Line	2.65	3-26-42
Eureka Pipe Line, W. Va.	2.59	3-26-42
Corning Grade, Ohio	1.31	5-27-41
Buckeye Crude, Ohio	2.30	6-18-41

MAJOR CRUDE OIL PRICE CHANGES

	Penna. Grade	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
May 22, 1940	Cut 25	.....	.....
June 18, 1940	Cut 25	.....	.....
July 12, 1940	Cut 25	.....	.....
Aug. 28, 1940	Cut 15	.....	.....
Nov. 12, 1940	Up 15	.....	.....
Dec. 17, 1940	Up 15	.....	.....
Jan. 27, 1941	Up 15	.....	.....
April 1, 1941	.....	Up 5	.....
April 23, 1941	Up 10	.....	.....
May 19, 1941	.....	Up 10	.....
May 21, 1941	Up 15	.....	.....
June 18, 1941	Up 20	.....	.....
Aug. 14, 1941	Up 23	.....	.....
Aug. 25, 1941	Cut 23	.....	.....
March 26, 1942	Up 25	.....	.....
April 1, 1943	.....	.....	Up ‡25

† Cargoes, domestic and export.
‡ 14 and 15 gravity.

CRUDE OIL PRICES IN CALIFORNIA

Prices per barrel in field, posted by Standard Oil Company of California, effective April 1, 1943.
All gravities above those quoted take highest price offered in that field.

GRAVITY	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda, Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier, East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Newhall, Kern River, Kern Front, McKittrick, Round Mountain	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Elwood Terrace
12-12.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	$0.94	....	....	....	$0.94	$0.94	$0.94	....	....	....
13-13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.96	....	....	....	.96	.96	.96	....	....	....
14-14.9	....	$0.93	....	....	$0.96	....	$0.95	....	$0.95	$0.95	$0.95	$0.97	....	....	.98	....	....	....	.98	.98	.98	....	....	....
15-15.9	....	.96	....	....	1.00	$1.01	.97	....	.97	.96	.97	.97	....	....	*Playa	....	....	....	.98	.98	.98	....	....	....
16-16.9	....	.96	$1.01	....	1.00	1.01	.97	....	.97	.96	.97	.97	....	....	del	....	....	....	.98	.98	.98	....	....	....
17-17.9	....	.96	1.01	....	1.00	1.01	.97	....	.97	.96	.97	.97	....	....	Rey	....	....	....	.98	.98	.98	....	....	....
18-18.9	$0.93	.96	1.01	....	1.00	1.01	.97	....	.97	.96	.97	.97	....	....	.88	....	....	....	.98	.98	.98	....	....	....
19-19.9	.93	.96	1.01	....	1.00	1.01	.97	....	.97	.96	.97	.97	....	....	.88	....	....	$0.98	.98	.98	.98	....	....	....
20-20.9	.93	.96	1.01	....	1.00	1.01	.97	....	.97	.96	.97	.97	....	....	.88	....	....	.98	.98	.98	.98	....	....	....
21-21.9	.93	.96	1.01	....	1.00	1.01	.97	....	.97	.96	.97	.97	....	....	.88	....	....	.98	.98	.98	.98	....	....	....
22-22.9	.96	.98	1.02	$0.88	1.00	1.01	.97	....	.97	.96	.97	.97	....	....	.88	....	....	.98	.98	.98	.98	$0.95	....	....
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98	....	.97	.98	1.00	.97	....	....	.91	....	....	.98	.99	.98	.98	.95	....	....
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01	....	1.01	1.02	1.03	.97	$0.99	....	.95	....	....	.98	1.03	.99	.98	.95	....	....
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	1.04	....	1.05	1.06	1.07	.98	1.02	....	.99	....	....	.98	1.07	1.01	.98	....	....	....
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08	....	1.09	1.10	1.11	1.01	1.06	....	1.03	....	....	.98	1.11	1.04	.98	....	....	....
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	....	1.01	1.15	1.07	.98	....	....	....
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	....	1.04	1.19	1.10	1.00	....	....	....
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	....	1.07	1.24	1.13	1.02	....	....	....
30-30.9	1.23	1.24	....	....	1.23	1.22	....	1.21	....	....	....	1.15	1.21	1.15	....	$1.01	$1.09	1.10	1.28	1.16	1.04	....	....	FOB
31-31.9	....	....	....	....	....	1.24	....	1.25	....	....	....	1.19	1.24	1.19	....	1.04	1.12	1.14	....	....	1.06	....	....	Ship
32-32.9	....	....	....	....	....	....	....	1.29	....	....	....	1.23	1.28	1.23	....	1.07	1.14	1.17	....	....	1.09	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	....	....	1.27	....	1.26	....	1.10	1.17	....	....	....	1.11	....	....	$1.22
34-34.9	....	....	....	....	....	....	....	1.36	....	....	....	1.31	....	1.30	....	1.13	1.20	....	....	....	1.13	....	....	1.25
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.35	....	....	....	1.16	1.22	....	....	....	....	....	$1.23	1.28
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.39	....	....	....	1.19	1.25	....	....	....	....	....	1.26	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	....	1.22	....	....	....	....	....	....	1.29	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	....	1.25	....	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	....	....	....	....

* Effective April 1, 1943, posted by Union Oil Company of California.

Colombian Development Prospects Have Improved Materially During Year

General improvements in the prospects for a return on the heavy investment by American and British Oil Companies in Colombia has been noted within the past year. A year ago Colombia did not look any too good to the companies who had poured millions into exploration and development. Today, the picture is much brighter.

After having spent probably in excess of $20,000,000 in exploration work, including in such expenditures as geophysical work, administration, legal effort and drilling, Shell last year got its first taste of commercial production in the Casabe field, across the Magdalena River from Tropical Oil Company's refinery at Barranca Bermeja. The discovery well was the Shell's third in this area, and might well have been the last, had production not been found. Since the first producer was drilled, nine additional producing wells have been drilled. Two sands have been proven, with the result that the Casabe field may now be considered as a genuine find, probably of at least a similar size to the best of the two fields found years ago by Tropical Oil Company. Estimates of the Casabe field reserves run in excess of 135,000,000 barrels.

Even more recently Shell has developed production in the Dificil field, in the Departmento Magdalena more than 100 miles from the nearest production (on Colombian Petroleum Company's Barco). Producing 130 barrels per day with a high gas-oil ratio, through a 3/16-inch choke, the discovery well opens up production at the northernmost point in Colombia to date. The oil is 46 A.P.I. gravity. Production is from porous lime at 5928 feet, and judging from the amount of pay cut, the new field will prove an important one. Location is 45 miles east of the Magdalena River and 80 miles southeast of Barranquilla. The concession on which it is located contains in excess of 120,000 acres. Under present priorities situation it is not likely that a line will be constructed to the new production for some time. The same thing applies to Casabe.

On the Barco the efforts of Colombian Petroleum Company during the past year have been more encouraging than has been the case for some time. A year ago the Barco looked none too good. Today Colombian Petroleum Company has production on two new structures and has received priorities covering necessary equipment to drill nine wells during the coming year.

In the meantime the question of the expiration date of Tropical Oil Company's DeMares concession across the river from Shell's new Casabe field, has gone into the courts. The government's interpretation of the concession agreement is that it expires within the next three years, whereas Tropical Oil Company's interpretation is that it has eight more years to run. Involved in the suit is only the concession covering Tropical's DeMares holdings. The Andian pipe line concession is not involved in the disagreement.

Mexico Reports Discovery Of New Producing Horizon

Reports from Mexico indicate that a new producing horizon has been proved productive in the area around Minatitlan, State of Vera Cruz, through completion of the well, "El Plan 97." Located in the northwest corner of the field, the well was estimated to be producing at the rate of 2800 barrels daily, gravity of the crude being similar to that of Poza Rica field.

In the Poza Rica field, Petroleos Mexicanos, the government company, recently has completed two good wells, it announced. The well "Poza Rica 41" flowed initially 3000 barrels daily from 2385 meters, and "Mecatepec 11," completed at 2990 meters, came in flowing at the estimated rate of 3500 barrels per day.

To Drill Costly Wildcat In Canadian Waters

Northeast of Maine, in waters adjacent to Prince Edward Island, Canada, Socony-Vacuum Oil Company and Cities Service Oil Company will drill a 12,000-foot oil test on an indicated large structure, mapped by surface geology and confirmed by seismograph. The location is in Hillsborough Bay, adjoining Northumberland Strait, which separates Prince Edward Island from New Brunswick and Nova Scotia. The site is less than a mile southwest of a dry hole drilled by Cities Service to 5965 feet without finding showings of oil.

That previous test of Cities Service was on small Governor Island in Hillsborough Bay, drilled on geological work of Hugh Mackay, Canadian geologist and holder of an oil concession from the provincial government of Prince Edward Island. The new test will be on the same indicated structure.

For the Socony-Cities Service test, a Canadian contractor has been employed to construct a foundtaion to hold back waters of Hillsborough Bay, and drilling will be done by a crew from the Southwest. Because of transportation difficulties, cost of the well will be higher than for Gulf Coast deep wells, which themselves cost up to $150,000.

Seepages of oil have been known for many years in this section of Canada, in the St. Lawrence River basin, although no important commercial production has been established.

Across Northumberland Strait from Prince Edward Island, near Moncton, New Brunswick, New Brunswick Oil & Gas Company has operated for many years a small field yielding principally gas. The company also operates a small gasoline topping plant and present production is around 100 barrels per day, it is said.

To Drill Canadian Wildcat 65 Miles East of Edmonton

Preparations for drilling for oil midway between Bruce and Holden, Alberta, are going ahead by General Petroleums Limited. Much of the material is on the ground, and the crew is at Holden and Bruce awaiting orders. Location is 11-29-15w, on legal subdivision 13. It is three miles west and five miles north of Bruce, only 65 miles east of Edmonton.

There are good surface indications of oil in the area, which is 18 miles west of the Viking and Kinsella gas fields which supply gas to Edmonton and intermediate towns.

Large Producer Completed In Turner Valley Field

National Vulcan No. 1 well in Turner Valley, Alberta, has come in with production which may make it one of the big producing wells in the valley. After slight acidization, natural production reached 70 barrels an hour or nearly 480 barrels a day. On compression, output was 43 barrels an hour. Natural pressure was steadily increasing.

The normal acidization is expected to lift production to the peak held by the major wells of the area.

The property adjoins Major No. 6 on the north, Major No. 3 producing 825 barrels, in the northwest, and Home 11, producing 500 barrels on the east.

Of the big wells in the Turner Valley 12 are located within a mile of the well and produce 24 percent of the allowable quota for all 186 wells in the valley.

The gas/oil ratio of National Vulcan No. 1 is very low. Further acidization is expected to bring it up.

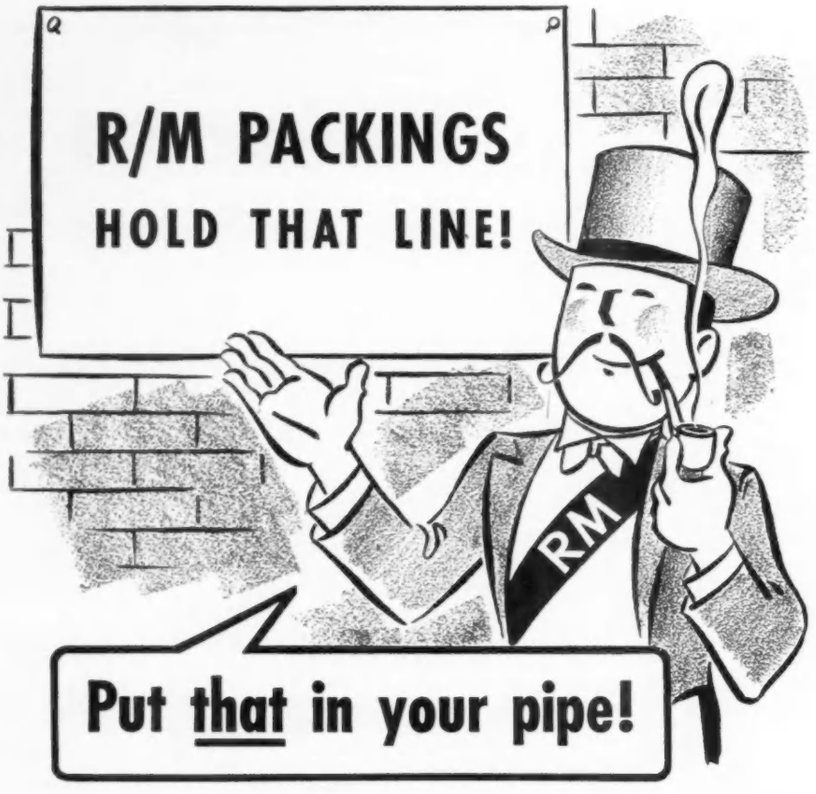
President of National-Vulcan Royalties No. 1 is Robert W. Wilkinson.

Sinclair Hopeful About Venezuelan Prospects

H. F. Sinclair, president of Consolidated Oil Corporation, recently told stockholders at the annual meeting that the company's operations in Venezuela were very interesting. The development is that of Venezuelan Petroleum Company, in which the Sinclair interests have a majority interest. "I consider it a very valuable property," stated Sinclair. He said that the company owned currently 3,346,163 shares of the 4,000,000 issued. Consolidated paid $5,947,000 for its holdings, and the shares now have a market value of approximately $24,000,000.

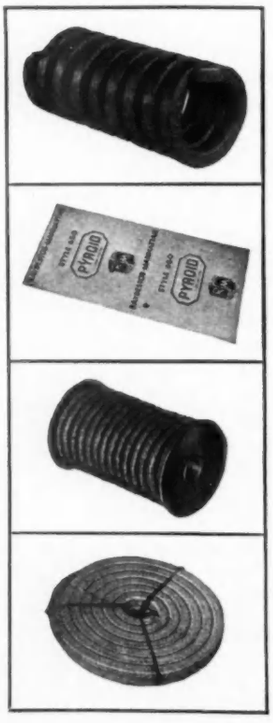
"We anticipate that we will get some relief with respect to the disposal of oil in Venezuela in the very near future," Sinclair said. "We have completed our pipe line and terminal and have about 50 wells. The initial production of these wells is between 40,000 and 50,000 barrels a day.

"The war has had a very deciding



Under the forced draught of war production, pipe-lines have to stand up under increased pressures. It is the patriotic duty of R/M packings to see that the steam, air, fuel, or oil gets where it's going, without blowouts and leaks through faulty seals. And these packings do their duty!

Lights burn brightly in R/M laboratories as engineers work early and late to improve these products for the stepped-up jobs to be done. Practical experience in the field adds to their knowledge, too, and the net of it all is better packings for every purpose.



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effect on the movement of the oil, because the government has requisitioned all our ships, and we are not in control of our transportation facilities for bringing oil into this country; but we hope in the near future to get some relief.

In the same meeting, stockholders of Consolidated Oil Corporation approved a proposal to change the company's name to Sinclair Oil Corporation.

Congressman Protests "Priorities Granted Mexico"

The State Department of the United States has been called upon by Congressman Jed Johnson of Oklahoma for information on the published reports that Mexico had been given priorities for $50,000,000 worth of oil industry equipment. (Reports also indicate that the United States government had extended to the Mexican oil industry sufficient credits for rehabilitating and stabilizing the industry.)

Representative Johnson wrote to Secretary of State Hull that he was "amazed and actually shocked" to learn that Mexico was to receive oil equipment that was being denied American producers. He said that he had received many letters from oil operators and producers, especially wildcatters, in which the senders complained that while the government is urging increased wildcatting and opening of new American oil fields, it has not been possible for wildcatters actually to obtain necessary equipment as needed.

Johnson asserted that Congress and the American public were entitled to know the facts in this situation, and he said that if he received no reply within a reasonable time, he would raise the subject on the floor of the House of Representatives.

Germany Getting More Oil from Rumania

Germany will be able to obtain increased quantities of petroleum from Rumania in consequence of two measures that have been taken, according to European press reports. One of these measures was the construction by German engineers of a new pipe line from the Ploesti oil fields to Bucharest, which has made it possible to divert tank cars from supplying the Rumanian capital with oils into the transportation of war materials. The other measure was the government's ordering of Rumania's railroads and large industrial plants to convert their facilities to the use of coal instead of oil as fuel, in order to make possible the dispatch of petroleum to Germany.

Plant for Conditioning Vermilion Crude to Reopen

Reports reaching Edmonton, Alberta, tell of an agreement by Canadian National Railways to pay $1.50 a barrel for conditioned oil from the cleaning plant at Alberta's Vermilion oil field.

From the producer's standpoint, this is an increase of 35 cents per barrel, as the producer now will receive $1.25 at the plant for conditioned oil, compared with 90 cents a barrel paid before the plant was closed down last fall.

It is also stated the railway company has agreed to take delivery of all oil produced up to 100,000 barrels at $1.50 per barrel for the conditioned product.

U. S. Field Operations

California

Fresno County Has Had Three Strikes in Recent Days

Fresno County, with three successful completions in recent days, is much the center of interest. Superior Oil Company brought in a new field 5 miles southeast of Helm production, Amerada Petroleum Corporation extended the southeast limits of that field, and R. S. Lytle's offset to the discovery at Guijarral Hills proved better than the discovery.

Lytle's 88-20F, 20-20-16, north offset to Standard Oil Company's Guijarral Hills discovery, had an initial flow of 1350 barrels of 28-gravity oil through 23/64-inch choke, pressures 500/850 pounds. This well, higher on structure, is confirmation of the growing belief that trend of production is north-south. Standard Oil Company's offset west of the discovery has not responded to four production tests and is scheduled to be abandoned.

Kern County: Two wildcats are approaching objective. Western Gulf Oil Company and The Texas Company are drilling at 10,282 feet in Los Angeles Club 1, 1-32-26, in a test of the northeast flank of Paloma field. Chanslor-Canfield-Midway Oil Company's No. 79-6, in Section 6, 32-23, was last reported drilling below 2700 feet with less dips than encountered in a previous unsuccessful test in this area.

Illinois Basin

Clay County Discovery Increases, Then Declines

L. G. Waggoner's Clay County discovery well increased oil flow to 880 barrels after an acid treatment, but dropped to 217 barrels in 17 hours after the first 24-hour gauge at the higher rate. The well, Pilcher 1, C SW NW NW 13-5n-5e, 1½ miles east of the Iola pool, last week came in with a natural flow of 800 barrels. McClosky lime at 2461-66 feet was given a 2500-gallon acid treatment, resulting in the increased flow and subsequent decline. Three offsets have been started: Kingwood Oil Company's Danka 1, SE NE NW 14-5n-5e, is drilling below 500 feet; Central Pipe Line Company's Pilcher 1, NW NW 13-5n-5e, is moving in, and Gulf Refining Company's Pilcher 1, NW SW 13-5n-5e, is building roads.

Franklin County: Ohio Oil Company's U. S. Coal & Coke Company 1, NE NE NW 13-6s-3e, originally reported making 2 barrels of oil and 1½ barrels of water an hour after an initial acid dose, was increased to 76 barrels of oil and 22 barrels of water by two more acid treatments, still swabbing. Work is under way trying to reduce the water.

Jefferson County: Nash Redwine's Gilbert 1, NE SE NW 24-4s-2e, a wildcat southwest of the King pool, swabbed 8 barrels of oil and the same amount of water in 24 hours from Aux Vases sand at 2650 feet. It is being deepened, probably to the St. Louis lime. The well is near the old Ina field where a few small producers were completed but later abandoned.

Redwine has derrick up for Benoist 1, NE SE SE 26-1s-3e, and E. J. Ruwaldt has staked location for Fitzgerral 1, NE NE NW 10-4s-3e, wildcats which will be followed with interest.

Bond County: Louis Lilly has revived interest in this area by starting a wildcat, Martin 1, SE SW SE 22-4n-2w, just west of Tamalco, drilling below 900 feet.

Kentucky

Of 69 operations in Western Kentucky last week, 30 are wildcats.

Henderson County: Sinclair Prairie Oil Company's Bradley 1, 8-N-23, 2½ miles east of Poole, set casing on Tar Springs saturation at 1939-51 feet, where drill-stem test recovered 810 feet of oil, 210 feet of oil-cut mud, and no water in an hour. Location is 1100 feet west of Iley Browning's Strum 1, recent discovery.

Carter Oil Company's Ohio Valley Trust Company 1, NW NW 18-P-23, 4 miles south of Henderson, with elevation of 388 feet, topped Lower Glen Dean at 1923 feet and abandoned at 2715 feet.

Oklahoma

Cromwell-Sand Pool Indicated in Okfuskee

A new Cromwell-sand pool in Okfuskee County is in sight as a result of tests at McIntyre, Sherman and Cummings' Lincoln 1, C SW NW 23-12n-8e. After plug was drilled, well made a bailer of oil per hour, natural. Operators planned to deepen the hole an additional 2 feet. Pipe was set to 3648 feet with total depth 3653 feet when plug was drilled.

Hughes County: Deep Rock Oil Corporation was drilling out the remainder of plug at Price 1 C NE NE 29-7n-10e, which kicked off and flowed 25 barrels of oil per hour after approximately half of a 29-foot plug was drilled for test of Cromwell sand at 3865-82 feet.

In the same area, Deep Rock Oil Corporation and Burke-Greis Oil Corporation started drilling plug at Turner 1, C SW NW 29-7n-10e, for a test of Cromwell saturation.

Love County: Mudge Oil Company is testing its potential pool opener, Tanner 1, NE NE SE 6-6s-2e, which was plugged back from 4510 to 3262 feet. Casing was perforated at 3160 to 3202 feet and when hole was cleaned out flowed oil into pits. The well later flowed 2½ barrels of oil into tanks in 30 minutes and died.

Garvin County: Ohio Oil Company's Burns 1, SE NE SW 17-3n-2e, which was wild for two months flowing an estimated 75,000,000 feet of gas daily from Pennsylvania sand at 2876 feet, has been shut in with the completion of a relief well, which was drilled to 2901 feet. Water, mud and cement were used to kill the gas flow. There has been considerable lease and royalty buying in the area, especially to the south of Burns 1.

Kansas

Rooks County Wildcat Showing in Arbuckle

Continental Oil Company has a pool opening well three miles northwest of the Dopita pool in Rooks County. It is Kriley 1, NWc 22-8s-18w, which found saturation in the Arbuckle lime at 3328-52 feet. After plug was drilled and 2500 gallons of acid applied to the hole, the well started flowing high-gravity oil. Testing continues and another acid application probably will be made. No official estimates of production have been made but the discovery is expected to make a maximum well.

Osborne County: McIntyre, Sherman and Cummings' Applegate 1, C SW 11-10s-12w, a wildcat which encountered saturation in Lansing lime at 3001 to 3013 feet, showed 5 gallons of oil per hour after plug was drilled. The hole was scheduled for an acid treatment.

Ellis County: Carl Lesback and H. E. Alexander's Jansen 1, SEc NE 3-13s-18w, is showing for an Arbuckle lime pool opener. Arbuckle was topped at 3666 feet and pipe was set to test 2 feet of saturation which appeared commercial. If the Arbuckle fails the operators plan to test a show in the Lansing at 3500 feet. Gulf Oil Corporation and Cities Service Oil Company have offset acreage.

McPherson County: Marlyn Oil Company and Tuesday Oil Company apparently have the first successful well out of the last five drilled in the South Roxbury pool. The well is Tinkler 1, C S½ NE SE 30-17s-1w, where tanks are being erected for production test. When plug was drilled to chat at 2671 feet, 1000 feet of oil rose in the hole in one hour. The first two wells drilled in the pools made good producers and the next four were dry.

West Texas

Winkler Ellenburger Strike Indicates Prolific Flow

Comparatively short section of Ellenburger pay was encountered by Stanolind Oil & Gas Company and Shell Oil Company's Blue 1, third consecutive deep strike for Winkler County, in reaching water table in drilling to 10,697 feet, or 204 feet in Dolomite. Seven-inch will be cemented on bottom for completion through perforations after temperature and bottom-hole pressure tests and an electrical formation survey. Drill-stem test at 10,539 feet indicated prolific oil and gas flow.

Amon Carter's Walton-Pure 2-C, Ellenburger discovery for the Keystone structure, was at 9600 feet, or 383 feet in gas cap and oil pay, and will be deepened to try for lower gas-oil ratio.

Crane County: Magnolia Petroleum Company's Lea 21, first deep test for east extension sector of Sand Hills field and 2½ miles east by north of

Ellenburger production, logged base of Permian at 6090 feet, 300 feet low, and was drilling Simpson at 6227 feet.

Gaines County: Amerada Petroleum Corporation's Robertson 6, Clear Fork project for the east flank of the Seminole field, was running protection string of 7-inch through regular pay at 5343 feet. In the Wasson field, Amon Carter has projected seven tests to be drilled to the two Clear Fork oil zones established by his nearby discoveries.

Howard County: W. S. Guthrie and Cosden Petroleum Corporation's Allen 1, LN 57, Block 20, first deep strike in the general area, pumped 157 barrels of 27-gravity oil from broken saturation in Clear Fork at 4028-96 feet, total depth 4096 feet, after 1500 gallons of acid. A southeast offset is to be drilled by Cosden Petroleum Corporation. Nearby failures in regular Permian, and several to the east in Mitchell County will be deepened, assuring an early showdown on extent of the producing area.

Pecos County: Magnolia Petroleum Company et al's Powell-State 1, 1½ miles northeast of Ellenburger production in the Apco area, renewed its bid for a new Permian pool in flowing 50 barrels daily, ranging from 2 to 10 percent sulphur water, after drilling out cement used in excluding cavity to 3539 feet, or immediately below casing seat. Pump will be installed. Phillips Petroleum Company's Price 1 was drilling sandy-shale at 11,460 feet, possibly near base of the unusually thick section of black shale. Standard Oil Company of Texas' Douglas 1, southwest edge of the Yates field, was drilling Basal Simpson at 8540 feet without shows.

Deals: General American Oil Company of Texas completed its fourth property purchase within 60 days in paying Wasomes Oil Company $125,000 cash and $150,000 from production for 1296 acres with 9 wells rated at 1574 barrels potential and a base allowable of 780 barrels daily in the Dune field, Crane County. The former paid Hal Peck et al $45,000 cash and $120,000 payable from 30 percent of production until oil payment is amoritized, then selling group will possess one-third working interest in the Campbell-Gulf 160-acre lease with 3 wells in the Keystone area. Gulf Oil Corporation farmed out the tract, retaining an eighth over ride and production rights below 3500 feet.

Wimberly Gets More Well Because of Space Change

Twenty-six additional wells are to be drilled promptly by operators in the Wimberly multi-pay field, Jones County, as sequel to PAW's recent revision of well spacing regulations that permits density of one well to 20 acres. The field has 46 wells on production, all having observed 40-acre rule, except for two units developed prior to PAW. Operators are negotiating rotary contracts with plans for making the first a 3000-foot test to try for additional pays, then drill full-hole through all zones and complete through perforations. However, machines will continue in use outside the gas-cap area. Fain & McGaha has renewed its efforts to induce operators to form a unit and drill an Ellenburger test, but this will likely be deferred until proved locations in regular zones are drilled.

Taylor County: Drilling & Exploration Company and Geochemical Surveys' Gibson 1, 3½ miles southwest of Merkel pool, was awaiting plugging orders at 5475 feet in Ellenburger. This wildcat logged numerous shows below regular oil levels, and used acid at 5134-51 feet in Bend, topped at 5128 feet, resulting in nominal show of oil with water. Information gained from this prospect enhances the outlook for deep production in the Merkel, Reddin and Wimberly chain of fields to the northeast. Great Lakes Carbon Corporation's Porter 1, 2½ miles east of Merkel, was drilling at 1770 feet, and will likely be a deep test.

North Texas

Wilbarger County Gets New Pool with Two Zones

Northeastern Wilbarger County recorded a new oil pool when British-American Oil Producing Company's Wilkinson 1, 6¼ miles northeast of Harrold pool, nearest production, kicked off after running swab once and flowed 55 barrels of oil in 30 minutes through open tubing, then shut in for tankage. Production is from perforations at 5845-63 feet and 5780-90 feet, possibly Marble Falls and Bend zones. The well was treated with 1500 gallons acid under 1600 pounds pressure, which failed to break.

Jack County: Standard Oil Company of Texas and Hanlon-Buchanan added to their list of recent discoveries when Peek-Shell 1, 3 miles southeast of Ellis pool, responded to treatment with 1000 gallons of acid in Bend at 4578-89 feet with flow of 65 barrels of oil and 1½ barrels of drilling water on 3-hour test through 24/64-inch choke. Top of Bend was entered at 4576 feet, or 60 feet low to an Ellenburger failure 1½ miles southeast. Continental Oil Company's Weir 1, 3 miles southwest of Myers pool, nearest production, plugged back from water at 6011 feet to 2460 feet, then set 7-inch at 2450 feet to perforate oil sand in Buttram zone at 2327-39 feet. Youngblood & Foree's Fulcher-Gulf 1, 4½ miles east of Post Oak, entered dry Bend at 5584 feet, and was drilling shale at 6140 feet.

Montague County: Sinclair Prairie Oil Company's Henderson 2, second test for company's Denver prospect and temporarily abandoned last November, responded to workover in pumping 81 barrels of 39.8-gravity oil and 80 barrels of water in 24 hours. Production is from perforations in Bend at 6065-77 feet, having plugged back from 7766 feet. Continental Oil Company's Scheller 1, southwest offset its Bend discovery in the Mueller pool, entered Bend at 6031 feet, 16 feet low, and was drilling at 6050 feet. Tester at 6034-42 feet yielded 100 feet of gas-cut mud with drilling water.

Cooke County: Snuggs - McElreath-Seitz et al's McGeorge 1, mile southeast of Walnut Bend field, halted at 6010 feet in Simpson, topped at 5730 feet, being 230 feet low, and will perforate 16 feet of oil sand entered at 4289 feet. The first 8 feet of 72-foot section of Winger sand, topped at 5505 feet, carried almost enough saturation to make a producer.

East Texas

Wood County Woodbine Oil Discovery Indicated

New discovery for Wood County was in prospect through F. R. Jackson, Roy L. Fisher et al's McCarley 1, Hazard Anderson Survey A-9, having logged heavily oil-saturated sand in 10-foot core pulled at 5439 feet in Woodbine topped at 5135 feet, with elevation of 478 feet. No test was made other than circulating for sample of the oil, which appeared to be 14-15-gravity of asphalt grade, and drilling was under way at 5460 feet to explore the Paluxy. McCarley 1 logged nominal oil saturation at 3 levels in the Sub-Clarksville and also in upper Woodbine. This prospect is on acreage contributed by Danciger Oil & Refineries, Inc., along with $5000 bottom-hole letter. Bert Fields et al own half interest in the well and contributed acreage. The test is 4 miles southeast of the Cartwright pool, and 4½ miles east of Quitman field, but involves a deeper seated structure.

Alba Prospect: B. B. Orr et al's Rainwater 1, ½-mile north of the town and on the west edge of Wood County, tested water in Paluxy sand, topped at 6423 feet with main body of sand at 6460-6537 feet. However, it may not be a decisive Paluxy test for this long-established high as it entered Georgetown at 5222 feet, or 44 feet low to a 5200-foot failure a mile south. Amerada Petroleum Corporation's Turner 1, east edge of Coke field, abandoned in dry Travis Peak at 8525-8901 feet.

Smith County: C. L. Wickliffe et al's Hackett-Pure 1, Sand Flats area, negotiated a new contract and was drilling at 9770 feet to explore Pettit after proving dry in second Glen Rose, topped at 9495 feet.

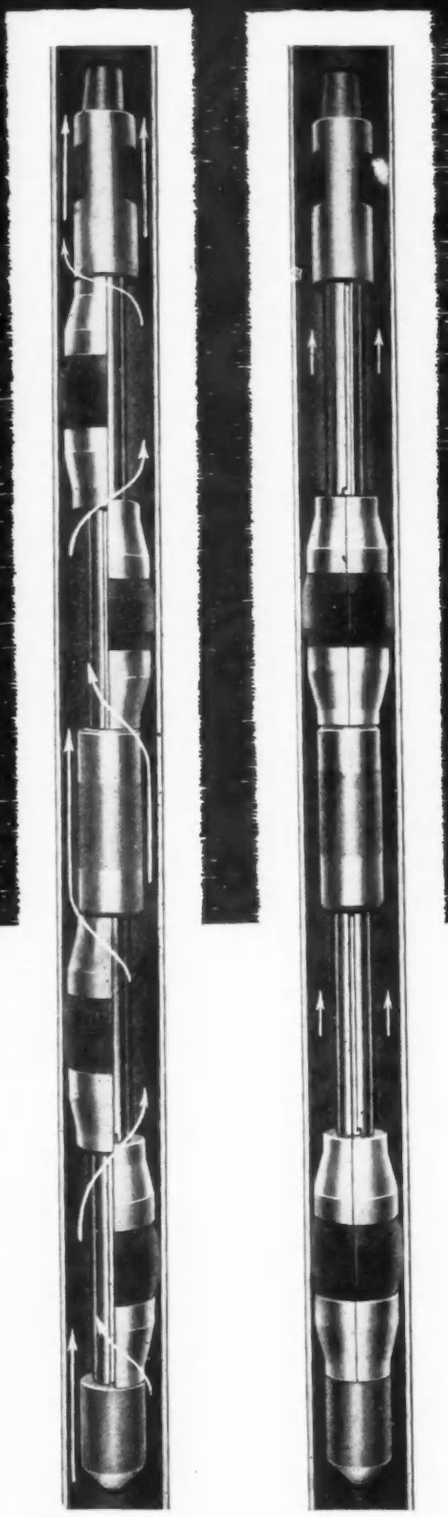
Robertson County: Magnolia Petroleum Company's Doremus 1, second test for a faulted structure 2¼ miles northwest of Calvert, was drilling at 5375 feet and will explore the Basal Trinity series. It is the first deep test for the county. Nominal oil stain and odor was logged in top of Edwards at 4699 feet, but tester used at 4705 feet yielded 1080 feet of salt water.

Hunt County: Stanolind Oil & Gas Company's Tilson 1, Paluxy discovery for the Campbell faulted structure, pumped 177 barrels of 30-gravity oil and 142 barrels of water on official test from perforations at 4358-66 feet.

Humble Oil & Refining Company's Graham 1, Smackover-lime project, entered dry Cotton Valley at 7250 feet, and was drilling at 7905 feet.

Chapel Hill: Chapel Hill Gas System et al's Finch 1, west outpost for the north portion of the field, flowed 930 barrels of 65-gravity distillate and 55 barrels of water with 10,250,000 feet of gas through ⅝-inch casing outlet from Paluxy perforations at 5818-54 feet. This is the largest distillate producer for the field.

Wood County: Sohio Producing Company's Morgan 1, 2¾ miles southwest of the Coke field, was drilling at 5900 feet in Georgetown, topped at 5300 feet, being 195 feet low to the nearest field well and 240 feet low to George Strake's Paluxy failure in the Cartwright pool.



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Shell Oil Company's Bailey 1, northwest offset to discovery well, entered Georgetown lime at 5025 feet, being 51 feet high, and was drilling at 5680 feet.

N. G. GUIBERSON, vice president of Guiberson Corporation, was honored recently with a surprise party marking his twenty-fifth year of service with the company in Dallas. He came to Texas from California in 1915, selling specialty oil tools developed by his brother, S. A. Guiberson, Jr. By 1919, another brother, W. R. Guiberson, joined him and plans were made for manufacturing in Texas. Guiberson Corporation operates two plants in Dallas, and Guiberson Diesel Engine Company. Most of the fourscore officials and key workers who attended the party have been with the company 14 years or longer.

Southwest Texas

Important Wilcox Sand Discovery in Goliad County

What apparently is the largest Wilcox-sand discovery in Southwest Texas has been completed by Continental Oil Company in the old Slick field area of Goliad County. The structure is believed to be exceptionally large based upon subsurface data, geophysical work, and regular drilling. The area is credited with having good potentialities for long-time production since sand is thick and favorable to extended flow. Development in and around the new strike is expected to be fairly rapid since a number of leases expire in a few months and several companies hold acreage. Although Continental Oil Company drilled the test, the company by no means dominates the lease situation. Large lease holders are Transwestern Oil Company, Barnsdall Oil Company and Superior Oil Company.

The well, Ada Wood 1, flowed 232 barrels of oil through 5/32-inch choke with tubing pressure of 1075 pounds and 1460 pounds on casing. Perforations were made at 7600-20 feet in the Carrizo sand which was logged at 7600-94 feet with approximately 50 feet of the upper portion showing oil. The company is preparing to move to a location 990 feet northwest of the discovery.

Karnes County: This county probably has been the most interesting from a lease viewpoint than any other area in the sector. With the opening of three fields on the Wilcox trend all the major companies began assembling blocks in the county. Many of these test wells will not be drilled for several months, even years, but sufficient geophysical and geological data has been obtained to place the county on the active list of oil areas. One of the newest fields in the Karnes belt is Hobson, where Seaboard Oil Company is testing Kyselica 1, 4700 feet northeast of production. The field pay was topped at 3955 feet, and on a drill-stem test 60 feet of oil was recovered in 10 minutes. The test was made at 3955-64 feet.

Atascosa County: A major extension to the Imogene field is indicated with Humble Oil & Refining Company getting 291 barrels of oil daily through ½-inch choke with 775 pounds pressure on tubing. This well, 8000 feet southeast of Thompson 1 discovery, is Coward 1 and was acidized in Edwards lime. The best recovery in the lime was made at 7636-46 feet, approximately 100 feet below the lime in the discovery producer. The well is in Lot 382 of Simmons subdivision in R. Muricio survey 604.

Jim Wells County: Transwestern Oil Company is opening a new shallow pay on the west flank of Seeligson field. The Seeligson 4-B was perforated at 4920-25 feet and the well flowed oil in six minutes. Previously, a drill-stem test at 4917-29 feet recovered 1840 feet of 38.1-gravity oil in 35 minutes. Several wells on the west flank have shown for production in the new sand. It is located in NE NE Section 64, Haldeman's subdivision of Seeligson Ranch.

Texas Gulf Coast

Flank Drilling Principal Current Activity

Flank drilling is the main development on the upper coast, although a number of wildcat wells are reported being planned for drilling this summer. New flank locations have been spotted at Alta Loma in Galveston County, Anahuac in Chambers County and at Katy in Waller County. This latter area is by far the most interesting from a drilling viewpoint. Several wells are drilling or preparing to

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drill in attempt to expand the oil producing area on the north and east flank side. The field proper produces gas-distillate.

Flank Tests: First activity in some time is scheduled for Alta Loma field, Galveston County, with Stanolind Oil & Gas Company making location to drill Hulen 8, west outpost. Contracted to 9200 feet, the well is on a 642-acre tact.

Humble Oil & Refining Company has made location for Young 1, semi-wildcat one-half mile east of production at Anahuac in Chambers County. Projected depth is 7500 feet.

R. J. Ursilla has announced location for a second well in the East Turtle Bay area of Chambers County, Mayes 1, 4200 feet northeast of Lotz 1, producer in M. A. Carroll survey. The operator recently opened a new horizon which flowed 100 barrels of 37.3-gravity oil daily from perforations at 6565-71 feet, through 10/64-inch choke.

Sun Oil Company has announced location for a south outpost at Katy in Waller County, Alt 1, on a 298-acre tract in H&TC 107. Projected depth is 7300 feet with operations due to start at once.

Caplen: First drilling in several months is in store for the Caplen field of Galveston County with James H. Snowden of Fort Worth preparing to drill two east extension wells on the Kahla lease, being a 92-acre tract in McKinney & Williams survey. Projected depth is 8000 feet.

Jasper County: Houston Oil Company and American Republic Corporation have been doing extensive coring in Castillo Fee 1, Wilcox wildcat three miles northwest of Bessmay. A drill-stem test in the Cockfield at 6857 feet showed salt water. The well is in Salvador Castillo survey.

South Louisiana

Erath Wells Being Drilled For Large Cycle Plant

What is believed to be one of the largest cycling programs in the coastal belt is under way in the Erath field area of Vermilion Parish. A large plant is being constructed and around 15 wells already have been drilled, some to 10,000 feet or deeper, to the prolific distillate sands. Operator in the field is The Texas Company, although several other companies own leases or fee land in and around the field. The property was unitized for the plant operation. The company recently has applied for permits to dual complete several of the wells, most of them being located in Section 21. It is reported that some of the shallower sands are richer in distillate yields than the deeper horizons.

St. Mary Parish: One of the major developments in the parish is now centered in the North Jeanerette area where The Atlantic Refining Company has projected a second deep test after completing a good producer in the area last week. The first well was drilled to 11,211 feet in shale and completed for 290 barrels daily through 9/64-inch choke. The second test is Adeline Sugar 2, 19-13s-9e, northwest of the producer.

St. James Parish: Humble Oil & Refining Company has been making additional tests in Colonial Sugar 1, semi-wildcat in the Hester (Convent) area. Located in 5-12s-5e, the well was perforated in the 5350-foot section, and flowed 91 barrels in 24 hours through 9/64-inch choke with 1650 pounds pressure on tubing. This well is opening a new producing area close to an old prospect.

North Louisiana

Concordia Wildcat Has Showing from Wilcox Sand

The California Company's Community 1, SW 4-9n-10e, at Lake St. John, Concordia Parish, recovered 30-gravity oil on second test in upper Wilcox at 3398-08 feet. It flowed 15 barrels, total fluid in one hour test. A previous test made in Wilcox at 3500 feet failed when it recovered only gas-cut mud and salt water. On test in deep Tuscaloosa, after drilling quit at 9000 feet, it flowed 175 barrels of distillate and ungauged amount of gas.

General production at Lake St. John is from the 4500-foot zone in Wilcox which produces 44-gravity oil.

Tensas Parish: The California Company and Carter Oil Company's Rhodes 2, NW 28-9n-10e, discovery at North Lake St. John, has been given a daily allowable for June of 94 barrels. It flowed 187 barrels a day in initial production from Wilcox perforations at 4434-43 feet. Rhodes 2 is first production for Tensas Parish and is two miles northwest of Lake St. John field.

Arkansas

Columbia County Test Has Two Promising Sands

Tide Water Associated Company's semi-wildcat, Young 1, NE SE 18-18s-19w, Columbia County, is testing possibilities in Cotton Valley zone. It is 8000 feet west of Reynolds lime production in deep Smackover at Atlanta. It logged two promising sands in Cotton Valley before pipe was set at 8355 feet in deep Smackover lime. Atlanta field has no Cotton Valley production. On completion this test may prove to be a separate pool from Atlanta.

A south edge well at Macedonia, Tide Water Associated Company's Dodson 1, C N½ SE 20-18s-21w, topped Smackover lime at 8871 feet and drilled to 8920 feet. On 24-hour test in Cotton Valley at 7196-7200 feet it flowed, through ¼-inch choke, 305 barrels of 47-gravity oil. Gas-oil ratio was 790/1 and working pressure at 900 pounds.

Mississippi

Deepest Test Showing Oil from Tuscaloosa

The California Company's G. T. Smith 1, NW NW 4-7n-7e, will install pump to further completion efforts after it recovered favorable indications of a producer from Tuscaloosa horizon. Operators reperforated pipe in basal Mas-

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sive sand at 10,288-322 feet. Oil stood at 7500 feet and during a 12-hour swab test recovery was 8 barrels of 24-gravity oil an hour, no salt water. Previously on drill-stem test from the same zone the wildcat had recovered oil but further testing failed when too much salt water necessitated squeezing perforations and a decision then made to deepen the hole. The test was bottomed at 12,229 feet but numerous tests made in the lower zones failed. Location is four miles northwest of Brookhaven, and this hole claims the depth record for deep drilling in Mississippi.

FRANK HERRING, former engineer for Republic Natural Gas Company, and E. R. Elledge, former geologist for Phillips Petroleum Company, have formed a consulting firm at Wichita, Kansas.

Michigan

Wildcat West of Reed City Showing Oil

Union Oil Company et al's Allen 1, S½ SW SE 31-19n-9w, Lake County, wildcat six miles northeast of the Reed City oil field, showed 1500 feet of oil in 18 hours in open 6-inch hole from Traverse lime at 3156-57 feet. With sea elevation of 1278 feet and top of Traverse at 3131 feet, it is structurally high with enough closure indicated to point to a potentially big producing area.

Operators plan to set 5-inch casing and test before deepening to original objective, 3500-3700 feet.

Hunter Atha, now in the Army, blocked the area and promoted the deal that brought about the test. He continues to hold one-sixth working interest in the well and drilling block. Besides Union Oil Company, Ohio Oil Company, Sun Oil Company, Sohio Producing Company, Bolger Oil Company and Smith Petroleum Company are leaseholders in a mile radius of the test.

Rocky Mountain Area

Pilot Butte and Steamboat Butte Get Extensions

Pilot Butte field extended and gas flow gauged in Frontier in Steamboat Butte extension both in Fremont County, Wyoming, Fulcher Basin gas extension appears for northwestern New Mexico.

Checking 50 feet higher on the Tensleep than the discovery and indicating the trend northwest toward the recent Steamboat Butte discovery, British-American Oil Producing Company's Tribal 1-D, C WL SW NW 15-3n-1w, Pilot Butte, swabbed 750 barrels initial from the Tensleep sand, topped at 6204 feet. Total depth is 6349 feet and 7-inch casing is set at 6242 feet. Well is a quarter mile northwest extension and is three-quarters of a mile northwest of the Tensleep discovery in the Pilot Butte field, Wyoming.

Steamboat Test: British - American's Tribal 1-C, SW SW 34-4n-1w, ¼ mile northwest of the company's Sundance discovery at Steamboat Butte, separate closure on the northwest end of the Pilot Butte uplift, made 3.7 feet of gas on drill-stem test open 25 minutes in Frontier sand at 2795-2856 feet. The Steamboat discovery, Tribal 1-E, NE NW NW 5-3n-1w, completed May 6, for 623 barrels daily on pump from Sundance at 5081 feet, with hole bottomed in saturated sand at 5119 feet. The discovery reported gas shows in the Frontier, but did not stop to test, and had 370 feet of oil in drill-stem open one hour from the Dakota sand.

Fulcher Basin: Southern Union Production Company's Couzens 1, C SW 18-29n-11w, midway between the Fulcher Basin field and shallow gas development in the Farmington area, San Juan County, northwestern New Mexico, reports a strong flow of gas in the Picture Cliff sand at 1855-85 feet, and is waiting on U. S. Geological Survey engineer to make test. Total depth is 1890 feet. This well apparently will make a 4-mile east extension to the Fulcher Basin field.

Oil at Shawnee: Half mile west of the one shallow producing oil well in the Shawnee area, Wyoming, Joseph A. Kaufman's Government-New Era 1, SW SW NW 25-32n-69w, bailed 30 barrels initial from Basal White River at 640 feet. This well is a shallow gasser deepened approximately 200 feet. Oil rose within 80 feet of top of hole.

EARLE SMITH, director of service for National Tube Company, has moved his office from Pittsburgh to Tulsa.

ROBERT R. ZISETTE has been appointed general sales manager for SKF Industries, Philadelphia. Zisette graduated from Yale University in 1921, and has been with SKF since September, of that year.

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United States Well Completions

ARKANSAS

Columbia County—Macedonia: Tide Water's Dodson 1, c n½ se 20-18s-21w, perf 7196-7200 ft, flow 305 bbls 47-gr, gor 790-1, wp 900, td 8920 ft.

Miller County—Fouke: Carter's Strohacker Unit A-1, se sw sw 31-16s-26w, perf Paluxy 3658-75 ft, swab 15 bbls, 90% oil, 1 hr, td 3503 ft.

ARKANSAS WILDCATS

Ouachita County: Jack Carnes et al's Roth & Cartier 1, nw se 13s-18w, abnd 4210 ft.

Union County: Arkhill Oil Co.'s Union 1, sw sw sw 18-18s-13w, abnd 3024 ft.

CALIFORNIA

Fresno County—Coalinga old field: Shell's 177-26, ne se se 26-19-15, pump 296 bbls 20.9-gr, perf 3475-3445, 3245-3205 ft, black shale 3170 ft, td 3477 ft.

Shell's 156-29, sw ne se 29-19-15, pump 118 bbls, 91 ft perf 2216 ft, black shale 1965 ft, td 2218 ft.

Standard's 230-35A, se ne ne 35-19-15, pump 19 bbls 23.2-gr, 5½-in, 3447 ft, completed 3320 ft, td 3507 ft.

Texas Co.'s A-2, nw sw ne 6-20-15, pump 54 bbls 12.9-gr, 18 ft perf 1355 ft, td 1410 ft, pd 1362 ft.

Texas Co.'s C-7, se ne se 6-20-15, pump 6 bbls 16.2-gr, 31 ft perf 2477 ft, td 2478 ft.

Union's Calif. Coalinga Fee 77-8, nw se se 8-20-15, Kreyenhagen 4188 ft, Big Blue 3373 ft, Kettleman 3326 ft, Gray Eocene 5525-5635 ft, sand zone 6375 ft, abnd hard tight gray sand 6604 ft.

Kern County—Belridge, South: Shell's FKL 73-12, se ne sw 12-29-21, pump 127 bbls, perf 1128-1075, 1045-980 ft, first oil sand 914 ft, td 1130 ft.

Shell's FKL 111-12, ne ne se 12-29-21, oil sand wet, abnd 1302 ft.

General Petroleum Corp.'s 36-2, se nw ne 2-29-21, junked 1165 ft.

Texas Co.'s Wrightson Fee 4, se nw sw 12-29-21, pump 11 bbls oil, 10 water, perf 1160-1146, 1105-1044, 1004-973 ft, td 1169 ft.

Fresno County—Helm: Amerada's Gunn F-4-26, c sw sw 26-16-17, Kreyenhagen 7662 ft, Eocene 8193 ft, abnd 8500 ft.

Kern County — Elk Hills: U. S. Navy's 65-1G, ne nw se 1-31-24, pump 52 bbls 19.8-gr, 43 ft perf 3299 ft td 3415 ft, pd 3300 ft.

U. S. Navy's 21-34S, ne nw nw 34-30-24, pump 52 bbls 20-gr, 50 ft perf 3135 ft, td 3138 ft.

Kern County—Kern Front: Standard's 46, sw ne se 15-28-27, pump 25 bbls oil, 18 water, 260 ft perf 2284 ft, td 2284 ft.

Kern County—McKittrick: East Puente Oil Co.'s 2-4A, se se se 11-30-21, pump 34 bbls 13.4-gr, 140 ft perf 1249 ft, td 1249 ft.

Kern County — Midway - Sunset: Chanslor Canfield Midway Oil Co.'s 58-9, ne sw nw 9-32-23, pump 180 bbls, 86 ft perf 3013 ft, td 3030 ft.

H. & T. Oil Co.'s 9, se nw nw 15-31-22, pump 10 bbls 13.5-gr, 100 ft perf 1300 ft, td 1368 ft, pd 1260 ft.

Vedder Petroleum Corp.'s 6, se sw se 9-31-22, abnd 1322 ft.

Standard's 2-15A, sw nw ne 15-31-22, pump 9 bbls 13.9-gr oil, 17 water, 285 ft perf 1431 ft, td 1440 ft.

Texas Co.'s 24A, sw ne ne 36-31-22, pump 4 bbls 20.4-gr oil, 20 water, 333 ft perf 2602 ft, td 2605 ft.

Kern County—Poso Creek-Premier: Westates Petroleum Corp.'s Cauley 44, sw sw sw 16-28-27, pump 151 bbls 15-gr, 113 ft perf 2975 ft, perf 2740-2770 ft, td 2975 ft.

Kern County — Round Mountain: Honolulu Oil Corp.'s 41, se ne nw 18-28-29, pump 20 bbls 14.7-gr oil, 11 bbls water, 44 ft perf 1860 ft, Vedder 1816 ft, td 1860 ft.

Los Angeles County — Wilmington: Long Beach Oil Development Co.'s "W" 50, 584 ft nely along n/l Seaside Blvd. fr e side 27th Ave. thence 1533 ft sely at r/a, 10-5-13, flow 521 bbls 20.1-gr, 311 ft perf 3240 ft, td 3242 ft.

Old well deepened: Union Pacific's 18, 3316 ft sly along c/l Ford Ave. fr c/l Anaheim thence 2448 ft wly at r/a, pump 89 bbls 17.1-gr, 336 ft perf 3497 ft, otd 3057 ft, td 3505 ft.

Madera County—Mendota: Texas Co.'s Gill 14-16, sw sw nw 16-31-16, 3,400,000 dry gas, ¼-in, shut-in press 1865-1865 lbs, perf 4485-4500 ft, td 5909 ft, pb 4500 ft.

Orange County — Huntington Beach: McVicar-Rood-McCallen's 2, 231 ft swly along c/l 17th fr c/l Florida thence 120 ft nwly at r/a, pump no est perf 3416-46, td 3461 ft.

Southwest Exploration Co.'s State J-9, 1871 ft wly along c/l Ocean Ave. fr c/l 23rd St., thence 123 ft nly at r/a, pump 258 bbls 20-gr, 714 ft perf 3176 ft, td 3225 ft, pd 3176 ft.

Standard's Huntington A-43, 1195 ft nwly along c/l Wesley Ave. fr c/l 23rd St. thence 950 ft nely at r/a, pump 60 bbls oil, 7 water, 355 ft perf 3648 ft, td 3700 ft.

Orange County—Seal Beach: Hellman Estates Co.'s 14, se se ne 11-5-12, flow 1272 bbls 27.6-gr, 840,000 gas, 32/64-in, 475/750 lbs, perf 5117-5147, 5167-5284, 5320-5387 ft ldd 5407 ft, 1428 ft 5-9/64-in incl perf 6416-6816 ft ldd 6816 ft, 2½-in tbg 6762 ft w/pkr 5402 ft and choke 5397 ft, td 6815 ft.

Sacramento County—Rio Vista: Peter Cook's 4, 2430 nwly fr s cor James W. Hamilton ppty thence 740 ft nely at r/a, 17-4-3, 10,216,000 dry gas, ⅝-in, 1128/1524 lbs, 69 ft perf 4376 ft, td 4376 ft.

CALIFORNIA WILDCATS

Sacramento County—Failure: Richfield's Natomas 2, sw se se 28-10-4, abnd 3746 ft.

San Joaquin County—Failure: Bankline Oil Co.'s Comm 2-1, abnd 5702 ft.

Fresno County — Extension: Amerada's Wheatville Farms 21-8, c ne nw 8-17-18, flow 265 bbls 37.2 gr, perf 6620-6630 ft, Miocene 6620 ft, td 8322 ft, 1½ mi se Helm production.

Fresno County—Discovery: Superior's Kreyenhagen 81-82, ne ne ne 22-17-18, Wheatville area, flow 120 bbls 40-gr, ⅛-in 865/0 lbs, perf 6848-6855 ft, td 9565 ft. Five miles southeast of Helm.

ILLINOIS

Bond County: Glen Brisco et al's Deshrough 1, sw ne se 27-7n-4w, abnd 580 ft.

Clay County: Tide Water's Winka 2, c nw sw 13-3n-6e, McCl lm 2964-82 ft, 46 bbls, 2987 ft.

Central Pipe Line Co.'s Reed 1, nw nw nw 14-5n-5e, Weller 2149-52 ft, Aux V 2338-61 ft, 75 bbls, 2370 ft.

Luttrell et al's Reed 9, nw sw nw 14-5n-5e, Weller 2126-42 ft, Ben 2289-2304 ft, Aux V 2323-66 ft, 480 bbls, 2366 ft.

Tide Water's Davis 10, c se se 15-5n-5e, McCl lm 2419-51 ft, 66 bbls, 2482 ft.

Pure's Kluthe 4, se ne se 4-5n-7e, McCl lm 2829-32 ft, 19 bbls, 2838 ft.

Fayette County: Carter's Lancaster 10-2, nec ne nw 10-8n-3e, gas input, 1532 ft.

Gallatin County: R. B. Martin's Bahl 2, nw se nw 15-8s-9e, Cyp 2520-48 ft, 9 bbls, 2548 ft.

Globe et al's Straub 1, nw nw nw 22-8s-9e, Tar Spgs 2000-09 ft, 19 bbls, 2928 ft.

Jefferson County: Nash Redwine's Martz 1, sw nw se 34-3s-3e, abnd 2770 ft.

Texas Co.'s Smith Comm. 1, sw nw nw 34-3s-3e, Aux V 2739-53 ft, 37 bbls, 2850 ft.

Lawrence County: Ryan Oil Co.'s Smith 2, nw se sw 27-2n-12w, Biehl sd 65 bbls, 1507 ft.

E. Geick's Gutteridge 3-A, c s½ ne sw nw 29-3n-12w, sand 1942-61 ft, 62 bbls, 1961 ft.

Wabash County: Magnolia's Hallock 1, ne ne nw 34-1n-13w, L O'Hara 2646-52 ft, 86 bbls, 2768 ft.

Wayne County: Pure's Garrison B-1, nw nw se 35-3n-7e, Aux V 2924-50 ft, 33 bbls, 2950 ft.

Pure's Hunt 1, nw sw se 35-2n-7e, Aux V 2920-45 ft, 91 bbls, 2945 ft.

Pure's Manahan 1, sw ne ne 17-1s-6e, abnd 3062 ft.

Deep Rock's Stroup 1, nw sw 29-1s-7e, L O'Hara 3184-93 ft, 280 bbls, 3193 ft.

White County: Carter's Phillips 2, se nw ne 19-6s-9e, Tar Spgs, 2315-20 ft, Cyp 2675-95 ft, Ben 2818-31 ft, 71 bbls, 2957 ft.

ILLINOIS WELLS DEEPENED

Clay County: Luttrell et al's Reed 3, sw ne ne 15-5n-5e, Ben 2327-32 ft, Aux V 2345-73 ft, 125 bbls, 2373 ft.

ILLINOIS WILDCATS

Clay County—Failure: Stout et al's Pulliam 1, ne ne ne 1-5n-7e, abnd 3039 ft.

Franklin County — Discovery: Lario O&G Co.'s Franklin Min Co. 1, sw sw nw 36-6s-4e, Aux V 3122-50 ft, 46 bbls, 3156 ft.

Gallatin County—Failure: Robinson & Puckett's Smith 1, n½ ne se 28-8s-9e, abnd 3050 ft.

Hamilton County — Discovery: Phillips & Gussman's Mead 1, se se nw 23-5s-6e, McCl lm 3205-14 ft, 143 bbls, 3222 ft.

Jefferson County — Failure: Deep Rock's Cox 1, se nw ne 36-4s-3e, abnd 3238 ft.

White County—Failure: Kingwood Oil Co.'s Spence 1, c ne nw 33-6s-8e, abnd 3180 ft.

INDIANA

Posey County: Cherry & Kidd's Walgrove Corp. 3, ne nw nw 14-4s-14w, Cyp 2610-24 ft, 60 bbls, 2624 ft.

Spencer County: Dameron, Gary & Savage's Frank 1, ne nw sw 36-7s-7w, Palestine 932-47 ft, 110 bbls, 947 ft.

INDIANA WILDCATS

Knox County—Failure: Sun's Weaver 1, nw se nw 5-5n-7w, abnd 2400 ft.

KANSAS

Barton County—Kraft-Prusa: M. P. Springer's Oeser 4, ne sw ne 30-16s-11w, White Lans lm 3067 ft, 5000 gals acid, pump 389 bbls, 3072 ft.

Barton County—Feltes Area: Phillips' Theissen 1, c sw nw 14-16s-12w, abnd 3368 ft.

Cowley County—Couch: Adair-Morton's

Wells Completed in the United States in Week Ended June 5, 1943

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells: *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS: *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Arkansas	2	....	....	....	2	....	....	....	2	2	4	6	88	90
California	22	2	....	5	29	1	2	....	2	4	34	29	611	351
Colorado	....	....	....	....	....	....	....	....	....	....	....	....	8	4
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Illinois	15	....	1	3	19	....	2	....	4	6	25	33	803	817
Indiana	2	....	....	....	2	....	....	....	1	1	3	5	112	178
Kansas	17	....	2	6	25	....	1	....	9	10	35	40	696	683
Kentucky	1	....	1	....	2	....	1	....	4	5	7	2	123	63
Louisiana	11	....	....	3	14	....	....	....	....	....	14	13	254	471
North Louisiana	1	....	....	2	3	....	....	....	....	....	3	6	107	.....
South Louisiana	10	....	....	1	11	....	....	....	....	....	11	7	147	.....
Michigan	....	2	....	2	4	....	....	....	7	7	11	10	202	288
Mississippi	2	....	....	....	2	....	....	....	....	....	2	....	14	61
Missouri	....	....	....	4	4	....	....	....	....	....	4	....	7	15
Montana	18	5	....	1	24	....	....	....	....	....	24	....	82	73
Nebraska	....	....	....	....	....	....	....	....	....	....	....	....	....	24
New Mexico	2	1	....	....	3	....	....	....	....	....	3	7	110	184
New York	16	....	8	....	24	....	....	....	....	....	24	23	489	503
Ohio	2	12	....	7	21	1	....	....	....	....	22	15	365	476
Oklahoma	6	1	2	5	14	....	....	....	3	3	17	20	564	684
Pennsylvania	37	2	17	1	57	....	....	....	....	....	57	53	1,163	1,753
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	1	6
Texas	37	1	1	15	54	1	4	....	25	29	84	84	1,652	2,902
E. T. Bor. Co's.	....	....	....	....	....	....	....	....	....	....	....	....	7	.....
E. Texas Field	....	....	....	....	....	....	....	....	....	....	....	....	2	.....
Rest of E. Texas	2	....	1	....	3	....	1	....	3	4	7	7	98	.....
North Texas	7	....	....	6	13	....	....	....	1	1	14	18	375	.....
W. Cen. Texas	1	....	....	4	5	1	....	....	5	5	11	9	145	.....
West Texas	12	....	....	1	13	....	1	....	2	3	16	18	383	.....
Tex. Panhandle	2	....	....	....	2	....	....	....	....	....	2	3	91	.....
G. Coast, Upper	2	....	....	1	3	....	....	....	3	3	6	7	116	.....
G. Coast, Lower	8	1	....	1	10	....	1	....	8	9	19	13	252	.....
S. West Texas	3	....	....	2	5	....	1	....	3	4	9	9	155	.....
S. Cen. Texas	....	....	....	....	....	....	....	....	....	....	....	....	28	.....
West Virginia	1	11	....	....	12	....	....	....	....	....	12	14	252	308
Wyoming	9	....	....	2	11	....	2	....	....	2	13	....	53	54
Total U. S.	200	37	32	54	323	3	12	....	57	69	395	354	7,649	9,973

* Includes distillate wells. † Includes salt water disposal wells.

Sandstrum 1, se ne se 11-30s-5e, Miss 2887 ft, abnd 2905 ft.

Ellis County—Ellis: Darby's Bittel A-2, c w½ sw se 31-12s-20w, Arb 3824 ft, 2500 gals acid, pump 170 bbls, 3839 ft.

Ellsworth County—Stoltenberg: Magnolia's Schroeder 3, c se ne 33-16s-10w, Arb 3263 ft, 2000 gals acid, pump 259 bbls, 3288 ft.

Ellsworth County—Bloomer: Western Pet. Expl. Co.'s Stumps 1, c ne nw 32-17s-10w, Arb 3244 ft, 1000 gals acid, pump 104 bbls, 3276 ft.

Jefferson County — McLouth: Apperson & Stark's Bower-McLaughlin 2, c n½ se ne 5-10s-20e, Miss lime 1483 ft, pump 35 bbls, 1632 ft.

E. V. Jackson's McLeod 4, ne nw se 5-10s-20e, Miss lime 1503 ft, pump 50 bbls, 1646 ft.

Leavenworth County — Linwood: Roxana's Fisher 3, c ne nw 19-11s-22e, abnd 1201 ft.

Lyon County — Hitchey-Moore: LeBlanc et al's Bradfield Ranch 1, se sw ne 25-21s-10e, Topeka 1137 ft, abnd 1505 ft.

Marion County — Lost Springs: Derby and Carey's Rogers 1, c w½ se se 9-17s-4e, Miss lime 2345 ft, pump 100 bbls, 2365 ft.

McPherson County — Roxburg: Stelbar Oil Co.'s Nilson 2, c e½ se se 18-7s-1w, Simp 3391 ft, salt water disposal well, 3500 ft.

McPherson County—SW Lindsborg: Winkler & Koch's Bean 1, c se nw 25-17s-4w, Viola 3395-96 ft, 500 gals acid, pump 158 bbls in 7 hrs, 3400 ft.

Pratt County — N. Stark: Lion OR Co.'s Ford 2, ne nw se 12-26s-12w, Viola 4144 ft, 1000 gals acid, abnd 4161 ft.

Rice County—Orth Area: Bartlett & Crum et al's Appel 1, c ne ne 21-18s-10w, Arb 3210 ft, 4000 gals acid, pump 84 bbls, 3244 ft.

Rice County—Chase: Aylward's Proffitt 2, c ne nw 20-19s-9w, Arb 3240 ft, 1000 gals acid, swab 14 bbls 3 hrs, 3256 ft.

Alyward's Rolfs 2, c se nw 20-19s-9w, Arb 3249-52 ft, swab 84 bbls, 3262 ft.

Harwood's Seaney 2, sw ne sw 30-19s-9w, Arb 3263 ft, 2000 gals acid, pump 194 bbls, 3272 ft.

Rice County — Keesling: Cities Service's Dimmett 1, c nw ne 20-20s-9w, Arb 3347 ft, abnd 3380 ft.

Russell County—Witt: A. H. Witt's Fee C-5, sw se nw 3-14s-14w, KC 2985 ft, pump 6000 bbls, 3000 ft.

Coralena's Harry 1, sw ne ne 9-14s-14w, KC 3006 ft, pump 761 bbls, 3042 ft.

Russell County—Rusch: Gulf's Rusch 1, c w½ sw sw 29-14s-14w, Permia 452 ft, input well, 550 ft.

Russell County—Trapp: Stanolind's Letsch A-4, c s½ se se 4-15s-13w, Lans 2974 ft, 3000 gals acid, pump 548 bbls, 3314 ft.

Saline County—Hunter: Deep Rock's Norton 1, ne sw nw 20-16s-1w, Miss 2670 ft, pump 67 bbls, 2680 ft.

Stafford County—Drach: Atlantic's Alpers 4, c ne sw 7-22s-12w, Arb 3668 ft, swab 60 bbls in 12 hrs, 3673 ft.

KANSAS WILDCATS

Barber County—Failure: Olsen Drlg. Co.'s Swartz 1, c sw ne 6-32s-11w, Miss 4260 ft, abnd 4312 ft.

Barton County—Failure: Ohio's Kraft 1-A, nec sw 26-16s-11w, Lans 3057 ft, Arb 3418 ft, abnd 3458 ft.

Stanolind's Nairn 1, swc 35-19s-15w, Arb 3658 ft, abnd 3758 ft.

Brown County—Failure: Clifton Gall & Towle's Amann 1, c sw sw 18-3s-17e, Lans 901 ft, Miss 2420 ft, abnd 2732 ft.

Ellis County—Failure: Schermerhorn Oil Corp.'s Leiker 1, nw sw se 17-15s-17w, Topeka 2970 ft, Arb 3589 ft, abnd 3630 ft.

Marion County—Failure: Alco Valve Co.'s Vogel 1, c e½ se se 32-19s-3e, Lans 1910 ft, Simp 2880 ft, abnd 2955 ft.

Osborne County — Failure: Northern Ordnance's Vandament 1, c nw nw 3-9s-13w, Hunton 3751 ft, Arb 4070 ft, abnd 4125 ft.

Rice County—Failure: Phillips' Matthael 1, sec sw 19-18s-9w, Lans 2876 ft, Arb 3243 ft, abnd 3273 ft.

Russell County — Discovery: Hartman & Blair's Boxberger 1, sw sw se 10-14s-14w, Gorham 3264-67 ft, pump pot 108 bbls, 3267 ft.

Stafford County—Failure: W. P. Faulkner's Walter 1, c n½ ne ne 18-21s-13w, Lans 3396 ft, Arb 3727 ft, abnd 3777 ft.

KENTUCKY

Henderson County: Farm Bureau's Burbank 6-A, 23-Q-21, Cyp 2293-2304 ft, 170 bbls, 2304 feet.

Ohio County: Ellis Massey's Westerfield 5, 25-N-31, repressuring well, 870 ft.

KENTUCKY WILDCATS

Daviess County — Failure: Krohn et al's Cravens 1, 20-N-28, abnd 1357 ft.

Henderson County—Failure: P. O. Wall's Cabell 2, 3-P-21, abnd 2750 ft.

Sinclair Prairie's Humphries 1, 7-P-21, abnd 2731 ft.

Cal Star Pet. Co.'s Darriott 1, 23-Q-21, abnd 2675 ft.

Union County—Discovery: Trans-Tex's Newman 1, 13-O-19, L. Mans 1428-45 ft, 110 bbls in 14 hrs, 2751 ft.

NORTH LOUISIANA

Caddo Parish—Pine Island: W. T. Bell's Stallcup 1, se ne ne 34-22n-16w, abnd 2522 ft.

E. D. Markham's Caddo 1, 8-20n-15w, abnd 2174 ft.

Caddo Parish—Hosston: Bayou State Oil Corp.'s Owens A-1, se ne sw, pump 8 bbls, 1045 ft.

SOUTH LOUISIANA

Evangeline Parish—Pine Prairie: C. & I. Production and Kirby Petroleum Co.'s Haas 2, 1701 ft s, 1041 ft w ne cor 2-4s-1w, 5½-in 8945 ft, perf 8870-8904 ft, flow 368 bbls, 16/64-in, td 8995 ft.

Roy Lee, Tr. (H. L. Hunt) Cromwell-Spencer 2, 337 ft e, 334 ft s nwc sw ne 2-4s-1w, se flank, 5½-in 8848 ft, perf 8676-8712 ft, flow 280 bbls, 12/64-in, td 8848 ft.

Iberia Parish—Jefferson Island: Texas Co.'s State-Lake Peigneur 7, 9265 ft w, 4806 ft n of most e'ly cor sec 59 in Lake T-12s-5e, 7-in 9165 ft, perf 8778-8800 ft, flow 680 bbls, 48/64-in, td 9486 ft.

LaFourche Parish—Delta Farms: California Co.'s Delta Farms 10, begin ne cor sec 1, go s 1 deg 00 mins e 660 ft, then w 800 ft to lcn in sec 1-17s-22e, set perf 9011-46 ft, flow 265 bbls, 9/64-in, td 10,119 ft.

Plaquemines Parish — Grand Bay: Gulf's State-Grand Bay 18, 3267 ft e on nl sec 8 fr sw cor, 525 ft at ra in sec 8-20s-19e, 5½-in 8830 ft, perf 8416-22 ft, flow 309 bbls, 5/32-in, td 10,250 ft.

St. Mary Parish — Bayou Sale: Humble's Luke 5, fr most n'ly cor sec 17, go sw'ly on nwl sec 17 for 4145 ft, th se'ly at ra to nwl for 1335 ft to lcn in 17-16s-9e, 5½-in 10,496 ft, perf 10,382-96 ft, flow 312 bbls, 9/64-in, td 10,496 ft.

St. Mary Parish—Belle Isle: Sun's Belle Isle 3, 3331 ft w, 1660 ft s of ne cor 1-18s-10e, abnd 4096 ft.

St. Mary Parish—North Jeanerette: Atlantic's Adeline Sugar 1, 1980 ft s, 660 ft w ne cor 19-13s-9e, 5½-in 11,650 ft, perf 11,453-58 ft, flow 290 bbls, 9/64-in, td 12,211 ft.

Terrebonne Parish—Lake Pelto: Texas Co.'s State-Lake Pelto 39, 3405 ft s, 3644 ft e nw cor 20 in 29-23s-18e, 7-in 11,220 ft, perf 11,080-92 ft, flow 230 bbls, ¼-in, td 11,220 ft.

Vermilion Parish—Erath: Texas Co.'s Unit A, 700 ft n, 60 ft e sw cor se 22-13s-4e, 7-in 11,305 ft, shut in, waiting on completion of plant, td 11,690 ft.

Texas Co.'s Unit L, 850 ft n 660 ft e sw cor 21-13s-4e, 7-in 11,250 ft, perf 10,314-82 ft and 10,404-50 ft, flow 20 bbls dist hour, ⅜-in, waiting on plant, td 11,250 ft.

MICHIGAN

Clare County—Winterfield: Taggart Brothers Co.'s Wightam 5, nw se nw 3-19n-6w, Stray sand, 5,100,000 gas, 1290 ft.

Clare County—North Winterfield: Taggart Brothers Co.'s Monson S-2, c nw, 1-20n-6w, Stray sand, 2,680,000 gas, 1315 ft.

Gladwin County—Buckeye: T. F. Caldwell's State 1, s½ sw ne 21-18n-1e, abnd 3645 ft.

Osceola County—Cedar: Ohio's Boettcher 1, s½ nw se, 18n-9w, abnd 3935 ft.

MICHIGAN WILDCATS

Allegan County — Failure: C. J. Smith's Howard 1, c se se 13-4n-13w, Traverse 1611 ft, abnd 1736 ft.

Clare County—Failures: Pure's Christen 1, n½ se ne 11-20n-3w, Traverse 3284 ft, abnd 3728 ft.

Turner Pet. Corp.'s Harvey 1, s½ sw se 11-17n-3w, Dundee 3995 ft, abnd 4073 ft.

Lake County—Failure: Bolger & Gordon's Coveny 1, n½ ne se 31-19n-11w, Dundee 3500 ft, Monroe 3580 ft, abnd 3707 ft.

Van Buren County—Failures: Sohio Producing Co.'s Banks 1, n½ se sw 3-1s-14w, abnd 1344 ft.

Perry, Gould & Cross' Winkel 1, ne ne sw 19-1s-16w, abnd 1062 ft.

MICHIGAN EXTENSION

Osceola County — Failure: Lupher Drilling Co.'s Wanstead 1, s½ nw sw, 34-18n-9w, 1 mi south Cedar pool, Dundee 3739 ft, abnd 3815 ft.

MISSISSIPPI

Madison County—Pickens-Sharpsburg: Carter's Whitworth 1, se sw 3-11n-3e, perf Eutaw 4812-22 ft, flow 195 bbls, 16% bsw, 16 hrs, 5/16-in, td 4812 ft.

Phillips' Whitworth 5, sw ne se 4-11n-3e, perf Eutaw 4806-14 ft, flow 60 bbls, 4 hrs, 3/16-in, td 4910 ft.

MONTANA

Fallon County—Cedar Creek: Montana-Dakota Utilities Co.'s Gov't 171, csw se 22-8n-59w, 3.85 gas, 91 lbs rp, 4½-in perforated liner, Judith River 940-1015 ft, td 1015 ft.

Montana-Dakota's 173 Gov't, cnw se 25-8n-9e, .480 gas, 99 lbs rp, td 1005 ft.

Glacier County—Cut Bank: Glacier Production Co.'s Hawkins 3, cse se sw 17-33n-5w, pump 160 bbls, Lower Cut Bank 2945-67 ft, 7-in 2925 ft, td 2967 ft.

Glacier's Lookhoff 9, cse nw 33-33n-5w, swab 231 bbls, 7-in 2939 ft, shot 100 qts 2957-80 ft in Lower Cut Bank, td 2982 ft.

Santa Rita O&G Co.'s Hardy 3, cse nw 27-35n-6w, swab 45 bbls, 7-in 2896 ft, Lower Cut Bank 2903-29 ft, td 2949 ft.

Santa Rita's Jordon 6, cse ne 18-32n-5w, swab 45 bbls, 7-in 2801 ft, Lower Cut Bank 2795-2841 ft, td 2860 ft.

Santa Rita's Lungren 3, csw sw 23-37n-5w, swab 24 bbls, Lower Cut Bank 2620-50 ft, pb 2647 ft, td 2664 ft.

R. C. Tarrant's Hintze 1, cnw sw 19-35n-5w, 3.0 gas, 7-in, 2753 ft, Sunburst 2740-83 ft, Cut Bank 2791-2840 ft, td 2841 ft.

Texas Co.'s Bonnet 7, cse sw 8-32n-5w, swab 90 bbls, Cut Bank 2935-75 ft, td 2975 ft.

Texas Co.'s Fee 1, se nw ne 31-32n-5w, swab 335 bbls, 7-in 2947 ft, Cut Bank 2940-3010 ft, td 3010 ft.

Trigood Oil Co.'s Tribal-131 4, se sw sw 30-32n-5w, pump 95 bbls, 7-in 3005 ft, Lower Cut Bank 3040-53 ft, td 3053 ft.

Trigood's Tribal-229 4, se sw se 25-32n-6w, swab 45 bbls, 7-in, 3035 ft, Lower Cut Bank 3084-90 ft, td 3090 ft.

Trigood's Tribal-230 4, se se sw 29-32n-5w, swab 180 bbls, 7-in 2842 ft, Lower Cut Bank 2890-2905 ft, td 2905 ft.

Trigood's Tribal-232 4, se sw se 30-32n-5w, swab 100 bbls, 7-in 2925 ft, Lower Cut Bank 2940-45 ft, td 2969 ft.

Phillips County — Bowdoin: Montana-Dakota's Unit 608, cnw nw 32-33n-32e, .196 gas, 220 lbs rp, Bowdoin 905-930 ft, Phillips 1095-1125 ft, td 1155 ft.

Montana-Dakota's Veseth 659, cne ne 15-31n-32e, .196 gas, 310 lbs rp, Phillips 933-955 ft, 995-1030 ft, td 1083 ft.

Toole County—Kevin-Sunburst: J. H. Agen's Goedertz 7, nw ne se 16-35n-3w, abnd 1805 ft.

Anglo-American's Engle 1, cne sw 35-36n-3w, pump 2 bbls, 1950 ft.

Big West Oil Co.'s Dahlquist 20, nw ne se 21-35n-3w, pump 80 bbls, Ellis-Madison contact 1777 ft, td 1792 ft.

A. E. Crumley & Sons' Fryberger 25, nwc se sw 24-35n-3w, pump 10 bbls, Ellis-Madison contact 1608-24 ft, td 1635 ft.

Enfield Oil Co.'s Zachor 9, ne ne nw 20-35n-1w, pump 20 bbls, Ellis-Madison contact 1596-1608 ft, pb 1608 ft, 500 gals acid, td 1613 ft.

G. M. Plotke's Ward 5, se ne ne 29-35n-3w, pump 20 bbls, 1000 gals acid in Ellis-Madison contact 1706-1711 ft, td 1711 ft.

Texas Co.'s Emmert 1, ne nw nw 15-15n-2w, pump 5 bbls, 500 gals acid, td 1595 ft.

Texas' Howling 8, sw ne sw 10-35n-2w, pump 51 bbls, 500 gals acid, Ellis-Madison contact 1626-28 ft, td 1628 ft.

NEW MEXICO

Eddy County: Grayburg Oil Co.'s Keely 2-B, c se sw 24-17s-29e, flow 338 bbls, 2-in, acid 4000 gals 2920-95 ft.

McKinley County—Hospah: Petroleum Products Co.'s State 30-X, 2100 ft out nec 36-18n-9w, pump 83 bbls oil, 25 water, td 1798 ft.

San Juan County: Southern Union Production Co.'s Walker 1, c ne 3-29n-12w, 1,350,000 gas, 575 lbs rp, 1943-90 ft, td 2050 ft.

OKLAHOMA

Carter County—Fox: Cities Service's Davis 5, nw se ne 34-2s-3w, shale 2238-79 ft, abnd 2296 ft.

Comanche County — Fort Sill: Texas Co.'s Spencer 2, c se nw 8-3n-10w, sd 560-73 ft, 1,000,000 gas, 1234 ft.

Creek County—Stroud: Fleet et al's Keys 1, c ne sw 8-14n-7e, Prue 2858 ft, shot 60 qts, flow 133 bbls, 2900 ft.

Creek County — Glenn: Gulf's Barnes 21, near c nw sw 8-17n-12e, Glenn 1483-1658 ft, input well, 1662 ft.

Marshall County — Isom Springs: Ross M. Winans' Fee 1, sw ne sw 31-7s-6e, sand 521-29 ft, pump 10 bbls, 529 ft.

Ross M. Winans' Fee 2, sw ne sw 31-7s-6e, sand 530-35 ft, pump 18 bbls oil, 10 wtr, 536 ft.

McLain County—Byars: Phillips' McAfee 2, c nw se 21-5n-3e, Viola 3477 ft, 1000 gals acid, flow 70 bbls, 3491 ft.

Okfuskee County — N. Castle: Texas Co.'s McKernan 2, c n½ ne sw 15-12n-9e, Cromwell 3278 ft, shot 40 qts, flow 17 bbls, 3310 ft.

Okfuskee County—Olympic: J. G. Buell's Richardson 1, c sw nw 7-10n-9e, Hunton lime 4005 ft, abnd 4025 ft.

Okmulgee County—Pollyanna: Sooner's Bovaird 2, c nw se 21-16n-11e, Taneha 2196 ft, abnd 2218 ft.

Seminole County—Swan: Villines' Amason 1, c ne ne 18-6n-6e, Earlsboro 2600 ft, abnd 2710 ft.

Stephens County — Velma: Skelly's Stiefel A-19, se ne nw 35-1s-5w, sand 923-29 ft, shot 10 qts, pump 18 bbls in 8 hrs and pump off, 930 ft.

Tulsa County — Independent: S. W. Anthony's Jenkins 1, c nw nw 10-16n-12e, Wilcox 242-428 ft, abnd 2448 ft.

Tulsa County—Red Fork: Pepis & Stekoll's Wolfe 1-A, near c sw sw 31-19n-12e, 2nd Wilcox 2105 ft, salt water disposal well, 2158 ft.

OKLAHOMA WILDCATS

Cotton County—Failure: J. B. Russell's Wisner 1, sw nw nw 28-2s-10w, abnd 3206 ft.

Garvin County—Failure: Kubat et al's Newborn 1, se sw se 14-4n-2e, Arb 4382 ft, abnd 4426 ft.

Okfuskee County—Failure: Jordan Pet.'s Jefley 1, ne nw ne 14-10n-10e, sand 2900-15 ft, abnd 2915 ft.

EAST TEXAS

Cass County—Kildare—Extension: R. Lacy and D. Lacy's Fee 1, A. Gideon sur, perf 6039-52 ft, flow 114 bbls, 12 hrs, 3/16-in, td 6070 ft, mile northwest of production.

Texas Co.'s Davis 1, Hopson sur, perf Henderson 5998-6007 ft, flow 196 bbls, ¼-in, tp 250, cp 950, gor 551-1, td 6039 ft.

Cass County: Sohio's Sloan Taylor 1, H. Reams sur, lcn, 7000-ft Travis Peak test.

EAST TEXAS WELL DEEPENED

Rusk County—Joiner Area: Sinclair Prairie's Mayfield 20-B, J. B. Cadena sur, otd 3621 ft, takes 3240 bbls brine at 300 lbs pressure, td 3736 ft.

EAST TEXAS WILDCATS

Hunt County—Failure: O. W. Killam et al's Waid 1, 330 ft nsl and 4300 ft wel John House sur, elev 588 ft, Austin chalk 2260-2843 ft, sub-Clarksville 2880 ft, Woodbine 3410 ft, abnd 3665 ft.

Nacogdoches County—Discovery: Texas Co.'s Strahan 1, 447 ft w and 1578 ft s of swc Jas. Walling sur, but in M. J. Ariola sur, 7 mi ne Nacogdoches, elev 447 ft, Georgetown 4753 ft, Paluxy 5217 ft, Glen Rose 5515 ft, Massive anhydrite, 7022-7230 ft, Pettit 8019 ft, Travis Peak 8615 ft, 425,000 gas with 28 bbls 51.7-gr distillate, 2-in, acid 3000 gals perf 8610-60 ft, td 9295 ft.

Wood County—Failures: Amerada's Turner 1, 467 ft out swc 51.79-ac lse, John C. Ogden sur, elev 497 ft, Georgetown 5220 ft, Paluxy 6370 ft, Glen Rose 6690 ft, Massive anhydrite 7770-7920 ft, Travis Peak 8525 ft, abnd 8900 feet.

B. B. Orr et al's Rainwater 1, 3650 ft ewl and 1250 ft nsl Jason Sherman sur, Alba prospect, elev 459 ft, Woodbine 4428 ft, Georgetown 5222 ft, Fort Worth 5822 ft, Goodland 6334 ft, Paluxy 6396 ft, water sand 6423 ft, abnd 6537 ft.

NORTH TEXAS

Archer County—Browning-Ellenburger: W. J. and J. J. Moran's Jentsch 1, 800 ft out swc sec 11, German Emigration Co. sur, Bend 5109 ft, Ellenburger 5204 ft, pump 73 bbls, acid 12,000 gals 5204-5310 ft.

Archer County: Martin Properties' Wilson 1-A, sw sw sw ATNCL 121, abnd 603 ft.

Baylor County—Rendham: British-American Oil Prod. Co.'s Green 3-L, 467 ft snl and 2146 ft ewl sec 8, J. E. Hix sur, abnd 3088 ft.

Clay County—Burns-Browning: L. T. Burns et al's Wilson 1, 660 ft out nwc sec 36, J. H. Belcher sur, Mississippi 5710 ft, abnd 5802 ft.

Cooke County—Voth: Snoddy Bros. et al's Kleiss 1, 1980 ft snl and 2847 ft wel John Trussell sur, A 1225, abnd 1406 ft.

Cooke County—Walnut Bend: Sinclair Prairie's Harrison 1, 1642 ft snl and 330 ft ewl blk 71, Fannin CSL, Winger 5489 ft, Simpson 5576 ft, flow 2030 bbls, 2-in, natural, perf 5490-5576 ft, td 5751 ft.

Sinclair Prairie's Harrison 1, 330 ft snl and 129 ft wel of n-53.6-ac blk 70, Fannin CSL, top Winger 5487 ft, Simpson 5564 ft, flow 1685 bbls, 2-in, natural, sand 5487-5561 ft, td 5741 ft, pb to 5561 ft.

Jack County — Ellis: Hanlon - Buchanan's Jones 1-B, 2200 ft e and 447 ft s of m/w/nw corner 91-ac tr, J. W. Williams sur, A877, Bend 4768 ft, flow 528 bbls, ¼-in, acid 3000 gals perf 4770-76 ft, td 4969 ft.

Montague County — Bowers: Burk Royalty Co.'s Martin 3, 330 ft snl and 1493 ft ewl C. A. Barnes sur, A48, granite 3665 ft, abnd 3669 ft.

Wichita County—K-M-A: Grace & Grace's Dorris 3, 7600 ft snl and 660 ft ewl J. R. Burris sur, flow 566 bbls 14/64-in, shot 210 qts 4028-81 ft.

G. E. Kadane & Sons' Bradley 1-C, 599 ft snl and 660 ft ewl S. Holloway sur, A491, pump 57 bbls, shot 260 qts 3761-3843 ft, td 3876 ft.

Wilbarger County: Phillips' Waggoner Est. 223, H&TC 46, blk 4, pump 15 bbls, shot 40 qts 1875-91 ft, td 1900 ft.

Young County: R. P. Dorian & Mitchell's Daniels 2, 467 ft snl and 1449 ft ewl TE&L 420, Bend 4090 ft, abnd 4544 ft.

NORTH TEXAS WILDCATS

Wichita County—Failure: Ernest Prod. Co.'s George 1, 330 ft out m/w/nw corner O. Farish sur, A 383, abnd 1470 ft.

WEST TEXAS

Andrews County—Fullerton: Fullerton Oil Co.'s University 1-A, c ne ne sec 6, blk 13, flow 2125 bbls 2-in, acid 16,000 gals Clear Fork 6773-7243 ft, td 7287 ft, pb to 7243 ft.

Cochran County—Slaughter: J. A. Humphrey et al's Dean 2, 1973 ft snl and 708 ft wel of 525-ac lse, leag 91, Lipscomb CSL, flow 580 bbls cas, acid 12,000 gals 5008-56 ft.

J. A. Humphrey et al's Dean 4, 629 ft snl and 2125 ft wel 525-ac lse, leag 91, Lipscomb CSL, flow 569 bbls cas, acid 12,000 gals 5015-61 ft.

Magnolia's Mallet 15-F, 580 ft out sec lab 7, leag 49, Edwards CSL, flow 1133 bbls, cas, acid 10,500 gals 4965-5025 ft.

Crockett County—Soma-Noelke: Aragon Oil Co. et al's Wise 1, 660 ft out swc e½ sec 27, blk GG, abnd 600 ft.

Hockley County—Slaughter: Jerry Hawkins et al's Mallet 36-A, 580 ft out swc lab 19, leag 47, Edwards CSL, flow 604 bbls cas, acid 11,500 gals, 4936-80 ft.

Howard County: Continental's Clay 5-E, 2250 ft snl and 1700 ft wel W&NW 138, blk 29, pump 406 bbls, acid 2000 gals 2449-2515 ft.

Pecos County — Apco: General Crude Oil Co.'s Crockett 1, 750 ft ewl and 3506 ft nsl TC 5, blk 110, elev 2464 ft, Ellen. 4625 ft, flow 2164 bbls, ¾-in, natural, perf 4650-4750 ft, td 4764 ft.

Pecos County—Taylor-Link: Wm. Wolf et al's University-Shell 6-A, 2350 ft nsl and 1650 ft wel sec 26, blk 16, flow 19 bbls, ¼-in, natural, 1692-1707 ft.

Milton Unger's University-Shell 1-D, c se se sec 29, blk 16, elev 2522 ft, shot 80 qts nitro 1430-81 ft, abnd 1481 ft.

Pecos County—Toborg: Stanolind's Toborg 9, 162 ft nsl and 150 ft wel A&B 536, pump 17 bbls oil, 6 water, sand 320-355 ft.

Ward County—Shipley: Stanolind's Kaufman 1, 2154 ft from ne and 330 ft from nw lines H&TC 3, blk 5, flow 84 bbls, ¼-in, natural, 2470-86 ft.

Winkler County—Weiner: General American Oil Co.'s (was R. Lowe) Brown-Altman (Humble) 5, c sw sw PSL 24, blk B-5, flow 144 bbls, 1-in, shot 270 qts 3010-3105 ft, td 3160 ft.

Yoakum County—Wasson: DeKalb Agricultural Assn.'s Armstrong-Humble 4, 3195 ft snl and 2085 ft wel lse, sec 889, flow 552 bbls, 2-in, acid 10,000 gals 5008-82 ft.

WEST TEXAS WILDCATS

Crockett County—Failure: Moore Bros. and Olson Oil Co.'s Shannon-Amerada 1, 660 ft out swc EL 21, blk YZ, elev 2563 ft, sul w 2540 ft, abnd 2752 ft.

Howard County—Failure: Ray Oil Co.'s Hutto 1, se se se T&P 46, blk 31, T-1-N, elev 2421 ft, anhydrite 1008 ft, Yates sand 1190 ft, San Andres 2310 ft, abnd 2942 ft.

Howard County—Discovery: W. S. Guthrie and Cosden Pet. Corp.'s Allen 1, c se se Lavaca Navigation Ry. 57, blk 20, elev 2340 ft, lime 2115 ft, pump 157 bbls 27-gr, acid Clear Fork 1500 gals 4028-91 ft, td 4096 ft.

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WEST CENTRAL TEXAS

Callahan County: V. M. Gamblin et al's Wagley 1-A, 330 ft ewl and 960 ft nsl TE&L 2969, abnd 375 ft.

Texas Mineral Land Co.'s Abrams 1, 1010 ft snl and 1120 ft ewl BBB&C 1, abnd 465 ft.

Jones County—Avoca: Jones-Stasney-Grover & Rose's Youngquist 1, nw sw sw BBB&C 189, abnd 3260 ft.

Shackelford County: Grace T. Knight et al's Davis 4-B, 330 ft out sec n-160-ac of w½ ET 219, pump 108 bbls, shot 30 qts 1587-1603 ft.

Taylor County—View: A. R. Forester-S. B. Robert's Ricks 1, 330 ft nsl and 1600 ft ewl n½ lot 22, Guadalupe CSL, leag 120, elev 1882 ft, lime 2310 ft, abnd 2735 ft.

WEST CENTRAL TEXAS WELL DEEPENED

Stephens County: Texas Co.'s Lauderdale 9, 1704 ft ewl and 1744 ft snl TE&L 3389, otd 2788 ft, pump 5 bbls oil, 50 water, acid 2000 gals 3163-89 ft, td 3194 ft, pb to 3189 ft.

WEST CENTRAL TEXAS WILDCATS

Bosque County—Failure: J. J. McLachen et al's Stinebough 1, 2640 ft from nw and 660 ft from ne lines S. Klepport sur, A448, abnd 3403 ft.

Coleman County—Failures: T. S. Stanfield et al's Gill 1, 1180 ft wel and 1910 ft nsl of 320-ac tr, Eleanor Mudd sur 69, abnd 881 ft.

Sohio Prod. Co.'s Creswell 1, nw se nw GH&H 92, blk 2, elev 1827 ft, Cross Cut 2620 ft, Morris 2636 ft, abnd 3258 ft.

Jones County—Failure: Hunter & Hunter's Minter 1, 660 ft out sec Lot 7, SP 41, blk 2, abnd 3505 ft.

McCulloch County — Failure: Dad Joiner Leasing Corp.'s Lawson 1, 860 ft snl and 350 ft wel of Valentine Hohman sur, A1093, abnd 1556 ft.

TEXAS PANHANDLE

Gray County: Magnolia's Fee (Tract 227) 62, 1984 ft snl and 660 ft wel I&GN 15, blk 3, pump 140 bbls oil, 70 water, shot 370 qts 2930-3000 ft, td 3023 ft.

Hutchinson County: Phillips' Ebling - McDowell 3, AB&M 18, blk M-16, pump 164 bbls, lime 3160-77 ft.

TEXAS GULF COAST

Brazoria County—Old Ocean: Magnolia and Abercrombie's McDonald 1-B, 660 ft fr sw & nwl 333-ac lse, Battle, Berry & Williams sur, 2 mi fr Sweeney, 7-in 12,708 ft, dual completion, perf 10,050-80 ft, flow 587 bbls 16/64-in, perf 9620-50 ft, flow 300 bbls 16/64-in, td 14,378 ft.

Matagorda County—Lucky: Stanolind's Anderson 2, 771 ft fr nl 1067 ft fr sl 538-ac tr, Elisha Hall sur, abnd 7904 ft.

San Jacinto County—Mercy: Shell's Carnes 1, start at n cor James Robinson sur, A-45, so sw'ly alg nw'ly 16,060 ft, thence se'ly at ra 660 ft on 40-ac unit, 5½-in 8251 ft, flow 152 bbls, ⅛-in, open hole 8251-72 ft, td 8272 ft.

TEXAS GULF COAST WILDCATS

Brazoria County—Failure: J. A. Fite's Darrington 1, 40-ac tr of Fite subdvn 600-ac tr, A. McFarland sur 13, 2 mi n Sandy Point, temp abnd 8507 ft.

Polk County—Failure: Humble's Wittfoth 1, North Livingston area, 320-ac tr, Augustine Viesca sur, abnd 11,023 ft.

Wharton County — Failure: Continental's Peterson 1, 161-ac tr, Juan Villa Nueva sur, 5 mi n Louise, abnd 5545 ft.

LOWER TEXAS COAST

Bee County—Caesar: Dirks Bros.' Miller 1, 495 ft fr s'ly nel and 1485 ft fr s'ly sel 404-ac tr, Franklin Lewis sur, abnd 6523 ft.

Bee County—South Caesar: Seaboard Oil Co.'s 1, 500 ft fr n&wl's 84-ac tr, Thomas Powell sur, 5½-in 6566 ft, perf 6551-53 ft, flow 73 bbls 7/64-in, td 6566 ft.

Jackson County — West Mauritz: John B. Coffee's Mauritz Bros. 4-B, 467 ft fr s&wl's 44-ac tr, M. L. York sur 22, 5½-in 5620 ft, perf 5488-92 ft, flow 122 bbls, 7/64-in, td 5640 ft.

J. A. Gray's McCrory 1, 467 ft fr sl&nwl 49-ac lse, A. Kountze sur, 5½-in 5690 ft, perf 5496-5500 ft, flow 202 bbls, 9/64-in, td 5690 ft.

Jackson County—North LaWard: Hewit & Dougherty's Owens 5, 660 ft fr nl and 1550 ft fr el blk 14, Pickering Rch subdvn, Patrick Scott sur, 5½-in 5265 ft, perf 5200-15 ft, jetted 52 bbls, ⅜-in, td 5708 ft.

Jim Wells County—Seeligson: Sun's Miller 9, 421 ft fr s'sl sl and 3200 ft fr w'ly el of 919-ac tr sec 65, Seeligson Rch, Willis Millican sur 335, 5½-in 5958 ft, perf 5938-43 ft, flow 122 bbls, 7/64-in, td 5960 ft.

Refugio County—Woodsboro: Southern Minerals' Wood 4, 660 ft w Mission River, 3730 ft s of nl Anastacio Reojas sur, 7-in 5493 ft, perf 5451-56 ft, flow 64 bbls, ¼-in, td 6046 ft.

San Patricio County — Midway: British-American's McAngus 2, 1320 ft fr nel, 933 ft fr el 220-ac tr, sec 71, Paul's subdvn, Coleman-Fulton Pasture subdvn, sw flank, 5½-in 6138 ft, perf 6085-96 ft, flow 76 bbls, ⅛-in, td 6500 ft.

San Patricio County — Odem: Seaboard's Lane 7, 500 ft fr wl, 690 ft fr sl blk 12-A, Cubage & Miller subdvn, Juan Hart & Sons gr, 5½-in 5528 ft, perf 5426-32 ft, flow 106 bbls, ⅛-in, td 5528 ft.

Victoria County — North McFaddin: Union Producing Co.'s Rydolph 2, 1178 ft fr nwl and 3236 ft fr nel lot 42, Burton, Wilson & Wharton subdvn of Traylor Rch in John F. Kemper sur, 7-in 5215 ft, perf 5138-46 ft, 3,250,000 gas, spray dist, ¼-in, td 5502 ft.

LOWER TEXAS COAST WILDCATS

Bee County—Failure: Bridwell Oil Co.'s St. John Unit 2, 495 ft fr swl and 330 ft fr sel 30-ac tr on 160-ac unit, Duff Hale sur, A-370, abnd 3910 ft.

DeWitt County — Failure: Humble's Werland 1, 660 ft fr nw'ly nwl, 1980 ft fr nel 273-ac tr, Henry Chamberlain sur, A-123, abnd 8949 ft.

Jackson County—Failures: Forest Development's Franek 1, 467 ft fr ne&sel's lot 36, J. M. Bennett Rch, Ramon Musquez Gr, abnd 6004 ft.

Salt Dome's Mauritz 1, 330 ft fr nl, 5997 ft fr el 600-ac tr, n½ 1200-ac tr Jessie White sur, A-82, abnd 7015 ft.

Jim Wells County—Discovery: Sam E. Wilson's Maria de la Garza 1-A, 675 ft fr sl and 831 ft fr el e-40 of s-80 of n 316-ac tr, Share 7, El Paisano Ramon de la Garza Gr, A-110, 7-in 7719 ft, perf 7920-27 ft, 100,000,000 gas, 150 bbls dist, open flow, td 8211 ft. Opens Wilson field.

Karnes County — Failure: J. W. Mayo's Moczygemba 1, 1 mi s Falls City Don Erasmo Seguin Gr, A-10, orig abnd 5-5-43 5213 ft, deepened to 6350 ft, abnd.

San Patricio County—Failures: Coastal Refineries' Johnson 1, 660 ft fr n&wl's ne¼ sec 25, Paul's subdvn J. J. Welder Rch, Hynes & Allen sur, 160-ac lse, abnd 6255 ft.

Coastal Refineries and Henshaw Bros. Botello 1, 660 ft fr n&el's sec 22, Cubage & Miller subdvn, Juan Hart & Sons Gr, 4 mi ne Odem field, abnd 6502 ft.

Victoria County—Failure: Texas Co.'s Gayle 1, 330 ft fr ne&nwl's 110-ac tr, John Hughes sur, 3 mi ne Victoria, abnd 4004 ft.

SOUTHWEST TEXAS

Duval County—Strake: Stanolind-Mills Bennett's Farmers Life 3-A, 330 ft fr n&wl's 40-ac portion 16,109-ac lse, J. H. Maynard Hrs sur 6, A-349, 5½-in 3232 ft, perf 3222-30 ft, flow 137 bbls, 3/16-in, td 3232 ft.

Duval County — Cadena: Taylor Refining Co.'s Garcia 2-B, 3620 ft w alg nl Blackstone & Hardeman sur, A-288, fr sw cor Calletano Rios sur 304, A-1026, 7-in 5256 ft, perf 5193-5217 ft, abnd 6516 ft.

Jim Hogg County—East: Sun's East 5, 650 ft n, thence 467 ft w fr s'ly sw cor 4480-ac lse sec 6, Santo Domingo de Arriba gr, 5½-in 4736 ft, perf 4733-36 ft, flow 39 bbls 9/64-in, td 4739 ft.

Jim Hogg County—Colorado: Sun's Thaxton 20, 330 ft fr nl and 5416 ft fr wl Thaxton & Cord sur 630 ft, flow 216 bbls, ¼-in, td 3113 ft.

Starr County—Edgerton: Baldridge & King's Rodriguez 1, 330 ft fr nl and 2221 ft fr el share 63, J. A. de la Garza Falcon Porcion 80, abnd 1209 ft.

SOUTHWEST TEXAS WILDCATS

Duval County — Failure: Transwestern Oil Co.'s Duval County Ranch 32, 660 ft fr s&el's P. G. Salinas sur 302, A-1948, abnd 2629 ft.

Live Oak County—Failure: Fidelity's Brown 3, 660 ft fr n'ly sl and 660 ft fr e'ly el 390-ac tr, Live Oak County School Land sur 2, abnd 4712 ft.

Starr County — Discovery: Baldridge & King's Edgerton 1, 330 ft fr s&wl's share 66, porcion 80, J. A. de la Garza Falcon gr, 210-ac lse, 8 mi ne Rio Grande City, pay 1222 ft, pumped 20 bbls day, td 4510 ft. Opens Edgerton field.

Webb County — Failure: O. W. Killam's Bruni 1, 467 ft fr wl and 330 ft fr sl 640-ac lse, J. M. Boyd sur 2250, A-943, abnd 4042 ft.

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■ WANTED: Low power binocular microscope, preferably Spencer make, suitable for examination of oil well cuttings. Give full details first letter including make, model, condition, range of power, and price. Cosden Petroleum Corporation, Att'n: Mr. C. F. Barnes, Geologist, P.O. Box 1311, Big Spring, Texas.

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Regular classified advertisements for this special section, set in type this size without border, take flat rate of 7 cents per word for the first insertion and 5 cents per word for each subsequent insertion of same copy. Display advertisements for this section, set in suitably larger type with ruled border, are $5.00 per inch for first insertion and $4.00 per inch for subsequent insertions. Remittance must accompany copy which should be sent to:

Trading Post Section, THE OIL WEEKLY
P. O. Box 2608 Houston, Texas

UNITED STATES WELL COMPLETIONS

WYOMING

Carbon County—Wertz: Sinclair Wyoming Oil Co.'s Unit 1-D, se se nw 1-26n-90w, flow 73 bbls, Tensleep 6350 ft, 7-in 6348 ft, td 6700 ft.

Freemont County—Pilot Butte: Superior Oil Co.'s Hoffman 2, cel nw sw 22-3n-1w, water in Tensleep 6230 ft, abnd 6660 ft.

Laramie County—Horse Creek: General Petroleum Corp.'s (Whitaker) 77-6-P, sw se ne 6-16-68w, pump 40 bbls, Muddy sand 5420-60 ft, water in Basal Sundance 6045-71 ft, pb 6460 ft, td 6107 ft.

Natrona County—Cole Creek: General's (Gov't) 53-G-21, nw sw ne 21-35n-77w, pump 150 bbls, Shannon 4490 ft, 7-in 4485 ft, td 4539 ft.

Niobrara County—Lance Creek: Continental's Apex-48, nw ne nw 35-36n-65w, pump 192 bbls, 7-in 5376 ft on top First Leo sand, td 5463 ft.

Park County — Elk Basin: Minnelusa Oil Corp. and Yale Oil Corp.'s Henderson 2 E-T, ne nw ne 31-58n-99w, flow 2160 bbls, ¾-in, Tensleep 4954-4523 ft, td 4523 ft. (Second well to complete in recently proved deep zone and west offset to discovery.)

Park County — Frannie Field — New Zone Discovery on North Fault Block: Kirk Oil Co.'s Gov't 5-M, se sw sw 24-58n-98w, flow 720 bbls, Madison lime 3180 ft, 7-in 3215 ft, td 3271 ft.

Park County—Oregon Basin: Husky Refining Co.'s Orchard 5, nw se sw 28-51n-100w, pump 185 bbls, Embar 3687 ft, Tensleep 3955 ft, td 4061 ft.

Ohio's Baston 2-A, nw sw ne 5-50n-100w, pump 245 bbls, elev 5460 ft, Embar 3398 ft, 7-in 4190 ft, Madison 4180 ft, td 4451 ft.

Ohio's Baston 3-A, nw se nw 50-50n-100w, pump 200 bbls, 5½-in 3730 ft, td 3795 ft.

Ohio's Batson 5-A, nw se ne 5-50n-100w, pump 250 bbls, elev 5477 ft, Embar 3514 ft, perf 4381 ft, Madison 4132 ft, td 4510 ft.

Weston County—Dewey Dome: W. H. Connor's State 1, nw sw ne 36-42n-61w, abnd 2890 ft.

WYOMING WILDCAT

Fremont County—Steamboat Butte, New Field: British American Oil Producing Co.'s Tribal 1-E, ne nw nw 5-3n-1w, pump 633 bbls, Sundance 5081 ft, 7-in 5091 ft, td 5119 ft.

United States Wildcat Starts

ALABAMA

Escambia County: Hunt Oil Co.'s Miller Mill 1, ne sw 27-3n-11e, lcn.

Monroe County: James Duffy's Moore 1, se se 28-7n-5e, lcn.

ARKANSAS

Cleveland County: Lion's Holderfield 1, ne ne sw 21-10s-9w, lcn.

Hempstead County: Barnsdall's Schultz 1, e½ ne ne 34-13s-26w, spud.

Logan County: Star Manufacturing Co.'s Foster 1, sw ne 26-5n-28w, dr.

Miller County: N. Hobson Wheless' Wisinger 1, nw se 9-20s-27w, lcn.

Ouachita County: DeKalb Agricultural Assn.'s McGaughy 1, nw sw 31-14s-18w, mim.

CALIFORNIA

Contra Costa County: Cal-Bay Corp.'s Faria 1, ne sw nw 21-2-1, Pittsburg area, gas test, lcn.

Trico Oil & Gas Co.-Signal Oil & Gas Co.'s 1, nw se se 4-2-3, Rio Vista area, lcn.

Fresno County: Standard's 84-29F se se ne 29-20-16, Guijjarral Hills, grade.

Glenn County: Superior Oil Co.'s Dodge Land 2, sw sw sw 7-19-1, Dodge Land area, lcn.

Los Angeles County: Barnsdall Oil Co.'s Baldwin 1, se se sw 3-2-1, Whittier-Montebello area of Whittier and e of Montebello, lcn.

Ventura County: E. F. Delaney's Todd 1, 6-12I, Oxnard area, lcn.

Union's Torrey 60, 5-3-18, Torrey Canyon area, lcn.

ILLINOIS

Clinton County: Wesler Oil Co.'s Martin Wessel 1, ne nw sw 22-1n-2w, lcn.

Gallatin County: Magnolia's Logsdon A-1, sw sw se 1-9s-10e, lcn.

Jefferson County: Minerva Oil Co.'s Parker 1, w½ nw nw 19-1s-4e, lcn.

Wayne County: Pure's Porter 1, nw sw 23-1s-7e, lcn.

White County: A. H. Anderson's White County Poor Farm 1, se ne sw 7-5s-10e, lcn.

Williamson County: Nash Redwine's Old Ben 1-A, sw ne sw 6-8s-3e, lcn.

INDIANA

Gibson County: Speak & Arnn's McCarty 1-A, sw se nw 13-2s-11w, lcn.

KANSAS

Cowley County: Elmer Adams' McKnab 1-A, nwc se 35-31s-4e, lcn.

Edwards County: Stanolind's Ramsey 1, swc se 3-24s-16w, lcn.

Ellis County: Phillips and Continental's John Hanock 1, nec 17-11s-18w, lcn.

Kearny County: Atlantic and Shallow Water's Thornborugh 1, c se nw 16-21s-35w, lcn.

Rice County: Nelson Drlg. Co.'s Perry 1, nwc se 11-19s-6w, dr.

Russell County: Saco Oil Co.'s Eulert 1, nec se 35-11s-15w, c&p.

Kingwood Oil Co. and John Lindas' Bouska 1, nwc ne 14-15s-11w, dr.

Stafford County: Skelly's Campbell 1, sw se sw 34-24s-15w, mit.

KENTUCKY

Henderson County: Cochran and Delta Drlg. Co.'s Mann 1, 22-R-23, lcn.

Hopkins County: Horan et al's Link 1, 25-M-25, lcn.

SOUTH LOUISIANA

Beauregard Parish: Sohio Oil Co.'s Lutcher-Moore 1, 660 ft e on sl, 660 ft n at ra fr sw cor 54-6s-12w, 3 mi n DeQuincy, lcn Wilcox test.

MICHIGAN

Lapeer County: Chapman Oil Co.'s Myers 1, e½ ne nw, 5-8n-10e, dr.

Newaygo County: Taggart Brothers Co.'s Goodrich 1, se se sw, 5-14n-11w, dr.

Osceola County: Bond & Hilliard's State 1, w½ ne ne, 1-19n-8w, dr.

Sun Oil Co.'s Davy 1, n½ ne sw, 25-18n-8w, lcn.

MISSISSIPPI

Adams County: California Co.'s Natural Gasoline Company of Louisiana 1, irreg 52-7n-1w, mim.

Clarke County: Irion Drlg. Co.'s Long Bell 2, sw nw 14-2n-16e, mim.

Hinds County: Plains Production Co.'s Taylor 1, nw sw 14-5n-2w, elev 278.8, spud.

Jefferson County: Gulf's Cupit 1, 30-8n-4e, lcn.

Marion County: Gulf's Bradshaw 1, 20-3n-17w, lcn.

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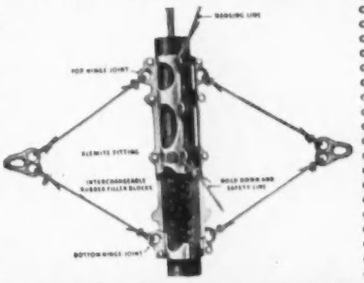

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By PHILIP B. KING

Geologist, Geological Survey, United States Department of the Interior, Washington, D. C.

PUBLISHED BY PERMISSION OF THE DIRECTOR OF THE GEOLOGICAL SURVEY AND OF THE SECRETARY OF THE GEOLOGICAL SOCIETY OF AMERICA.

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FOREWORD BY RONALD K. DeFORD AND E. RUSSELL LLOYD

CONTENTS

Chapter One—Introduction
Chapter Two—Guadalupe Mountains Section
Chapter Three—Sedimentation and Tectonics in Guadalupe Mountains Region
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Chapter Five—Regional Correlations
Chapter Six—Paleogeography and Geologic History

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NEW MEXICO

San Miguel County: Geo. Parrish and Henry Fields' State 1, ne nw sw 16-14n-13e, lcn.

OKLAHOMA

Comanche County: Texas Co.'s Mitchell 1, c nw ne nw 10-3n-10w, dk.

Creek County: Shell's Townsend 1, nw se se 36-17n-7e, lcn.

Garvin County: Pure's Burke 1, ne sw ne 24-3n-1w, c&p.

Logan County: Eason Oil Co.'s School 1, ne sw sw 16-15n-2w, dr.

Okfuskee County: Wells et al's Barnard 1, nw sw 3¼-11n-11e, lcn.

Pottawatomie County: Smith Bros.' Coons 1, c nw sw se 32-10n-3e, rig.

Stephens County: Fidelity Royalty Co.'s Hepner 1, nw ne nw 13-2n-5w, dr.

TEXAS GULF COAST

Fort Bend County: Phillips' Robinson 2, Blue Ridge w flank, 330 ft fr n&el lot 16, 293-ac tr, Duff & Robinson subdvn, Hicks Shropshire sur, lcn 7000-ft test.

EAST TEXAS

Van Zandt County: H. L. Hunt Oil Co.'s Parker-Pure 1, 330 ft from se and 887 ft from sw lines 3.8-ac tr and J. Sparks sur, 3½ mi ne Edgewood, lcn Paluxy test.

NORTH TEXAS

Archer County: L. T. Burns et al's Ickert 14, 523 ft nsl and 467 ft ewl blk 17, Crawford Pasture subdiv, I. Holeman sur, A 162, sp 5500-ft test.

Ray Dawson et al's Duckworth 1, 450 ft nsl and 665 ft wel blk 8, Harris subdiv, lcn.

S. D. Johnson et al's Wm. Coleman 1, 3757 ft wel and 5610 ft snl of Wm. Coleman subdiv of Brazos CSL, A 18, lcn 6000-ft test.

Cooke County: W. T. Lucas et al's L. C. Gilliland 1, 330 ft out nec se 144-ac of Geo. G. Steele-Thos. Toby sur, A 1062, lcn 2000-ft test.

LOWER TEXAS COAST

Bee County: Bridwell Oil Co.'s Meyer 1, 495 ft fr ne&sel of tr in J. A. Reed sur A-286, 2 mi n Beeville, lcn.

Jackson County: Continental's Weeks 1, East Edna area, 1650 ft sw alg sel fr e cor lot 9 J. W. Weeks subdvn, W. J. E. Heard sur A-31, lcn.

SOUTHWEST TEXAS

Duval County: Edwin B. Cox and Jake Hamon's Hoffman 1-B, 1977 ft fr se and 2002 ft fr swl BS&F sur 122, sec 111 and 122, 2 mi sw Tarancahuas field, lcn.

Duval County: H. J. Porter's Hay 1, 660 ft fr n&wl of 2 170-ac of s 260-ac, Diego de Honojosa gr, 1½ mi w Crestonio, lcn.

SOUTH CENTRAL TEXAS

Burleson County: B. C. Bukowski's Cade 1, 75-ac tr, W. J. Porter sur, 5 mi sw Caldwell, lcn.

Travis County: Marts & Beaven's Chamberlain 1, 1800 ft fr nl and 660 ft fr wl 165-ac lse, Manning sur, lcn.

Williamson County: Underwood Rountree's Seggern 1, 82-ac lse, Raidy Pace sur, 5 mi e Taylor, lcn 1000-ft cable-tool test.

WEST CENTRAL TEXAS

Coleman County: Anzac Oil Corp. et al's Morris 50-J, 330 ft snl and 2334 ft wel Wm. B. Tantley sur 721, lcn 2750-ft test.

Taylor County: Butler-Horne Drlg. Co.-Sandy Ridge Oil Corp. et al's Moore 1, 467 ft out nwc 170-ac tr, David T. Bruce sur 135, lcn 2500-ft test.

Fain-McGaha et al's Petterson 1, 990 ft ewl and 330 ft nsl lot 22, leag 148, DeWitt CSL, lcn 2600-ft test.

Squeaks from the Bull Wheel

Another View

I've decided to get a divorce. My wife hasn't spoken to me in six months.

Better think again. Wives like that are hard to find.

Depends

How old would a person be who was born in 1894?

Man or woman?

Explained

How did you break your arm?

Skin trouble.

What! What kind of skin trouble?

Banana skin.

Choice

And couldn't the motorist have avoided hitting you?

Sure he could. He had the choice of hitting me or the missus and he picked on me.

Won't Show

"Ouch, I bumped my crazy bone."

"Well, just part your hair on the other side and it will never show."

Stymied

"I'd fire you in a minute," cried the irascible manager, "if I thought I could get another man to fill your job."

"And I'd quit in a minute," sighed the weary bookkeeper, "if I was through with my night course in welding."

More Scotch

"I wish to rent a horse."

"How long?"

"The longest you've got, laddie. There be five of us going."

In Advance

"Mrs. Gray's husband didn't leave her much when he died, did he?"

"No, but he left her often while he was alive."

Approves Grandpa's Taste

"I won't get married until I find a girl like the one grandpa married."

"Huh! They don't have women like that today."

"That's funny! Grandpa only married her yesterday."

Too Long to Wait

"You should take a bath before you retire."

"But, doc, I don't expect to retire for another 20 years."

First Things First

Mrs. Newlywed—"How do you cook pork and beans?"

Mother-in-Law—"That isn't the question, my dear. How do you get them?"

True Story

The gentleman paced the floor of the Maternity Ward smoking cigarettes, chain fashion. Every several minutes he walked down to the end of the long corridor and asked the veteran nurse on duty there—"Any news yet?"

She wearily would reply: "Not yet, be patient." And he would resume his pacing.

Finally, the telephone on the nurse's desk jingled, and after a few short spoken words, she put down the receiver, called to the nervous gentleman and said:

"It's a boy. Would you care to see your wife now?"

Racing towards his hat and coat, the nervous gentleman said to the nurse:

"Not yet. First I have to get the kid a ration card."

Doctor's Orders

"And why is Mac wearing the big plaid vest?"

"Haven't you heard? The doctor told him to keep a check on his stomach."

Notes for the Equipment Buyer and User

Pipe Coupling

E. B. WIGGINS OIL TOOL COMPANY

E. B. Wiggins Oil Tool Company, 3424 East Olympic Boulevard, Los Angeles, California, announces a new line of industrial and marine couplings, ranging in size from 2 to 10 inches. These couplings are disengaged by releasing a latch and throwing a lever.

Connection is made by placing the two ends of the coupling together and raising the lever. The couplings are all made in accordance with federal specifications and the larger sizes are individually tested for pressure and porosity.

Sizes from ¾-inch to 2-inch are die cast from Zamak, a special metal, and the larger sizes are machined from brass or aluminum.

Pipe Line Filter

AMERICAN LOCOMOTIVE COMPANY

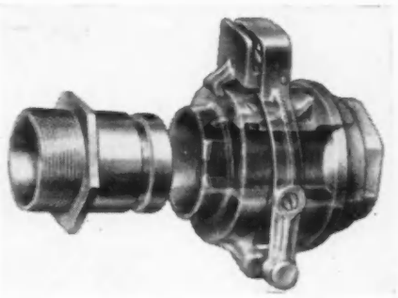
American Locomotive Company, 30 Church Street, New York, announces a new line of pipe-line filters. This equipment has been designed with full consideration of three important factors in filter construction: ease of cleaning and refilling; non-restricted openings; and reduction in weight.

In this filter the cover is attached to the shell by means of a clamp ring in order to reduce weight of parts to be handled to a minimum, as well as the time required for unheading and heading up when changing the filter basket.

Clamp rings are made semi-circular in shape with a machined hook at the rear to engage a bevelled groove in the shell flange. Short, sturdy compression bolts in the front flange of the clamp ring securely hold the cover in place. Possibility of leakage of the cover joint is eliminated by alignment of component parts of the joint which permits even distribution of the compression bolt force over the face of the cover gasket.

The clamp ring permits the full cross-sectional area of the shell to be useful since it allows the use of a separate filter basket removable from the shell for discharge and renewal of the filter media.

The filter basket is centrally located in the shell, thereby providing useful space between it and the shell for the proper dispersal of the incoming filtered product throughout the length of the filter basket.



Wiggins Quick Disconnect Coupling

A pronounced reduction in the velocity of the product takes place upon its entrance into the shell space, thus allowing the heavier particles of sediment to deposit out, and accumulate at the bottom of the shell before coming in contact with the filtering media in the basket.

Internal structure consists of a removable perforated cylindrical filter basket complete with an efflux pipe for the accumulation of filtrate and subsequent discharge into the channel section of the pipe-line filter. The efflux pipe is perforated within the confines of the filter basket.

The filter basket is made up in a manner permitting entire dismantling. Component parts are the front-end plate, rear-end plate, perforated cylinder, perforated efflux pipe, circular yoke and tap bolt.

The filter basket rests on guide tracks to center the basket in the shell and provide a space below the basket for the distribution of the incoming fluid and accumulation of sediment and solids. Guide tracks as well as the end plates of the filter basket are faced with non-ferrous material to prevent sparking. The basket attaches to a retainging flange ring welded to the shell to prevent movement and at the same time to provide a separate compartment for the filtered product from which it can pass from the pipe-line filter.

Removal of the single tap bolt in the rear end plate of the filter basket permits entire dismantling of the basket. Likewise, insertion of the tap bolt after refilling the basket completes the assembly of the component parts into a single rigid filter basket.

Dresser Companies Show Big Increase in Volume

Combined sales of Dresser Manufacturing Company and subsidiaries for the six months ended April 30 exceeded those for the entire 1942 fiscal year, H. N. Mallon, president, reported recently.

In view of higher earnings from the record breaking volume of business, directors voted a dividend on the capital stock of $1.00 per share, payable June 18 to shareholders of record June 8. In 1942 the company paid semi-annual dividends of 75 cents each on June 29 and December 21.

Sales for the current six months of $31,563,580 established an all-time high record. They were almost 10 percent greater than for the entire 12 months ended October 31, 1942, and more than three times those for the first six months of that year. Consolidated net profit after all charges and taxes amounted to $1,280,346, equivalent to $3.82 per share, compared with $1,728,516, or $5.15 per share, for the full year. Net profit for the six months ended a year ago was $543,297, or $1.62 per share.

Total provision for taxes on income for the six months was 25 percent greater than for the full year and more than four times the taxes for the six months ended a year ago. The current net provision, after giving effect to a postwar tax refund of $343,324, was $3,452,689, equivalent to $10.31 per share of capital stock.

Dresser Manufacturing Company and subsidiaries comprise a group of seven companies under a common ownership, all known as Dresser Industries.

Corrosion Control

D. W. Haering & Company, 205 West Wacker Drive, Chicago, has published the fifth edition of its booklet, *Organic Methods of Scale and Corrosion Control,* incorporating a number of charts, graphs, tables and half-tones illustrating the use of organic chemicals in water-conditioning and pointing the way to substitution of available chemicals for products which are now obtainable with difficulty, if at all.

The new edition also includes an explanation of causes of scale and corrosion and introduces a section tabulating the physical and chemical properties of the various Glucosates developed by Haering research.

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11. Basket Front End Plate
12. Basket Rear End Plate
13. Yoke and Tap Bolt
14. Perforated Basket Screen
15. Perforated Efflux Pipe
16. Efflux Pipe Outlet Elbow
17. Guide Strips
18. Outlet Channel
19. Filtering Material
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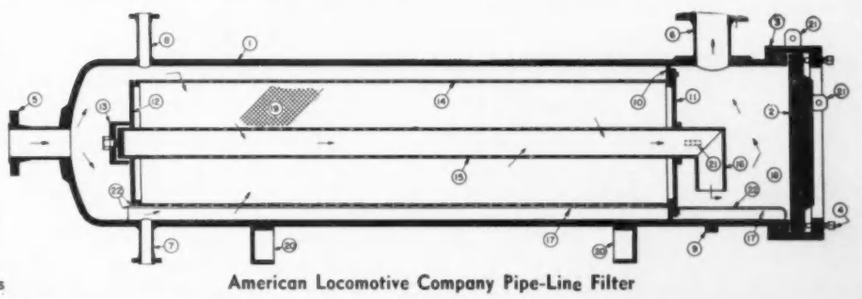
21. Lifting Lugs
22. Non Ferrous Facings



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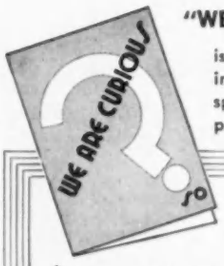

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Men in the Industry's News

DR. PAUL D. KRYNINE, professor of geology at the Pennsylvania State College, State College, Pennsylvania, spoke before the Pacific Section, American Association of Petroleum Geologists, in Los Angeles, on the evening of June 1. His subject was "Diastrophism and the Evolution of Sedimentary Rocks."

Dr. Krynine is on a speaking tour at the invitation of the Distinguished Lecture Committee of the American Association of Petroleum Geologists. His itinerary includes the principal oil-producing centers of the country, and cities where he will speak are: Lansing, Michigan; Evansville, Indiana; Wichita, Kansas; Tulsa, Oklahoma; Fort Worth, Wichita Falls, San Antonio, Corpus Christi, Tyler, Dallas and Midland, Texas; Los Angeles and Bakersfield, California.

AL BUCHANAN, San Antonio operator and drilling contractor, was elected president of the South Texas Chamber of Commerce at its annual meeting at San Antonio, June 2.

LELAND JONES, former district man for Ohio Oil Company in Oklahoma City, and A. H. Richards, Oklahoma City consultant, have joined the Anderson-Prichard Oil Company staff. Jones will be stationed at Colorado City, Texas, and Richards will remain in Oklahoma City.

ROBERT P. REID, Phillips Petroleum Company geologist, Bartlesville, has been transferred to Denver, Colorado.

CHARLES N. CHAMPION has resigned as assistant federal district attorney at Muskogee to accept a position, July 1, as general counsel for Deep Rock Oil Corporation at Tulsa.

DR. MARCUS A. HANNA, of the Gulf Oil Corporation, Houston, spoke before the June 3 meeting of the Houston Geological Society, discussing "Some Theories on the Geology of Salt Domes." The next meeting, after summer recess, is scheduled September 2.

WALTER H. SPEARS, United Gas Pipe Line Company, has been elected president of Shreveport Geological Society, succeeding G. D. Thomas Shell Oil Company. T. H. Philpott, Carter Oil Company, was named vice president, and E. P. Carter, W. C. Spooner Company, secretary-treasurer.

JOHN B. BAIRD recently was elected chairman of the board of Regents of Nomads. At the same meeting, I. Frank Brown was elected secretary.

DAN HENINGER, Ohio Oil Company, was elected president of the North Texas Geological Society at the semi-annual meeting of the society at Wichita Falls on May 28. Other officers include Dolphe E. Simic, Cities Service Oil Company, vice president, and Carlos M. Ferguson, Magnolia Petroleum Company, secretary-treasurer. M. G. Cheney, Anzac Oil Company, spoke at the meeting on "The Stratigraphic Classification of the Pennsylvanian Strata on North-Central Texas."

LOREN F. KAHLE, now with The Carter Oil Company at Tulsa, has returned to the United States from Caripito, Venezuela, where he had been connected with Standard Oil Company of Venezuela since November, 1935. Prior to going to South America, he had gained experience in Mexican oil fields.

C. V. SIDWELL, former production superintendent for British American Oil Producing Company, Oklahoma City, is now in charge of drilling and production for Northern Ordnance Inc. in Oklahoma and Kansas, with headquaraters at Tulsa.

C. D. WATSON, The Carter Oil Company, is back in Tulsa after being located in Washington several months.

H. W. WILSON has been promoted to District Manager of the Oklahoma District of Kobe Incorporated with headquarters at Oklahoma City. Until recently he was district manager in West Texas. Wilson started in the Production Department of The Pure Oil Company in 1929 after finishing school. He became associated with Kobe in 1937 and contributed to some of the early application of hydraulic pumping in the Oklahoma City field.

Advertisers' Index

*Indicates detailed information on products and services included in 1942 edition of Composite Catalog of Oil Field and Pipe-Line Equipment.

Tow Advertisers' Index
Air Reduction Sales Co. 31
Aluminum Company of America III Cover
American Association of Petroleum Geologists 62
*American Cable Division American Chain & Cable Co. II Cover
American Cast Iron Pipe Co. 59
*American Sand-Banum Co. 64
*Baash-Ross Tool Co. 8
Wm. M. Barret, Inc. 61
*Cameron Iron Works, Inc. 17
The Continental Supply Co. 1
*Fred E. Cooper 29
E. H. Edwards Co. 25
Fluid Packed Pump Co. 6
Ft. Worth Laboratories 61
*The Guiberson Corp. 30
Gulf Engineering Co. 61
*Halliburton Oil Well Cementing Co. I Cover
Hercules Powder Co. 33
Houston Laboratories 61
*Hughes Tool Co. IV Cover
*Jones & Laughlin Steel Corp. 3
The S. M. Jones Co. 54
Ladish Drop Forge Co. 21
*Lucey Export Corp. 49
Lufkin Foundry & Machine Co. 4
Macklin Co. 56
*Mission Manufacturing Co. 53
Moser Manufacturing Co. 35
The National Supply Co. 18-19
New Bedford Cordage Co. 35
*Oil Center Tool Co. 32
*Oil City Brass Works 61
*Patterson-Ballagh Corp. 61
*Pelican Well Tool & Supply Co. 55
Hotel Philadelphian 62
*Raybestos-Manhattan, Inc. 48
*Reed Roller Bit Co. 5
*The Ridge Tool Co. 27
*John A. Roebling's Sons Co. 2
Roosevelt Hotel 64
*Schlumberger Well Surveying Corp. 23
Sooner Pipe & Iron Co. 61
*Southern Mill & Manufacturing Co. 36
*Wisconsin Motor Corp. 59